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ABSTRACT

This research is the result of 10 weeks of field work in Taiwan during the summer of 1972. It consists of a description, analysis, and comparison of the morphologically marked causative verbs in Rukai, Bunun, Tsou, Anis, Seedig, and Saisiyat. The theoretical framework employed is a type of case grammar referred to as "lexicase," a generative but non-transformational approach to syntax. The different approaches taken by several linguists to the problem of causation constructions are described, and then each of the six languages is considered independently. It is concluded that there is one typological characteristic common to all the languages studied, the clear and fundamental division of verbs into two classes, active and passive. (PP)

CAUSATIVE VERBS IN FORMOSAN LANGUAGES

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PRELIMINARY VERSION

To be presented at the First International Conference on Comparative Austronesian Linguistics, January 2-7, 1974, Honolulu, Hawaii.

CONTENTS

1.0 Introduction....89
2.0 Amis.....102
3.0 Bunun.....113
4.0 Rukai.....117
5.0 Saisiyat.....121
6.0 Seediq.....128
7.0 Tsou.....138
8.0 Conclusion.....150
9.0 References.....152

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1.0 Introduction

1.1 This paper is based mainly on ten weeks of field work which I conducted in Taiwan during the summer of 1972. I was supported by Grant No. GS-3334 from the U.S. National Science Foundation while I was a Visiting Research Fellow of the Institute of History and Philology of the Academia Sinica. It forms part of a broader survey of the syntax of all the Formosan languages which I began in 1964.

The languages I studied directly were Rukai (twenty-five hours of elicitation), Bunun (nine hours elicitation), Tsou (about fifteen hours), Amis (fourteen hours), Seediq (twenty-five hours), and Saisiyat (seventeen and a half hours). I conducted all of my elicitation directly in Mandarin Chinese, except in the case of my third Saisiyat informant, with whom I had to use a Chinese-Atayal interpreter. I have also referred to works on Amis (Ferrell 1971a, 1971b), Atayal (Egerod 1966), Bunun (Jeng 1969), Paiwan (Ferrell 1971a), Poyoma (Sprenger 1972), Rukai (Li 1973), Saisiyat (Tsuchida 1964), Seediq (Asai 1953), and Tsou (Tung 1964). Because of wide variations in outside references and time available, and in the abilities of my informants, the quality of my data ranges from excellent (Amis, Tsou, Rukai) to minimal (Bunun).

I have used a broad phonetic transciption for my examples, except those in the section on Tsou. Since I have not done a phonological analysis of any of these languages, I felt the material would be of more use to phonologists if I reported them essentially as I recorded them, without attempting to reconcile inconsistencies or variations in vowel length and quality, consonant retroflection, etc.

1.2 In this paper, I attempt to describe, analyse, and compare the morphologically marked causative verbs in the six languages I studied directly. I have tried to test the validity of Stevens'

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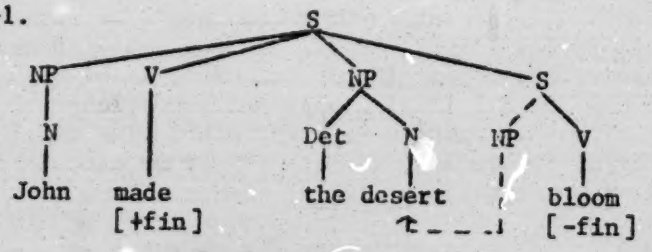
claim (1973) about the general form of indirect action causatives in Austronesian against data from Formosan and to present evidence to support my claims that the formation of causatives and passives must be treated as lexical derivation rather than inflection.

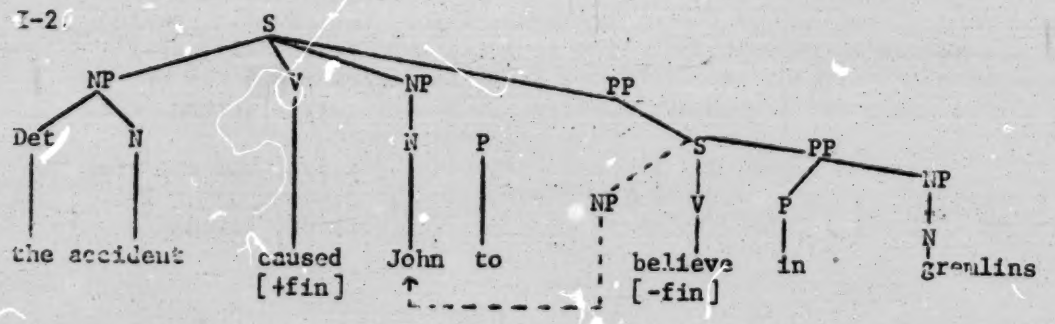
1.3 The theoretical framework employed is a type of case grammar which may for the sake of convenience be referred to as 'lexicase' (Taylor 1971:6). Briefly, lexicase is a generative but non-transformational approach to syntax. It has no distinct deep structure and no transformations, and instead relies on Phrase structure Rules (PSR), and Subcategorization (SR) and Redundancy (RR) Rules. It captures the relationship between sentences by means of Derivation Rules (DR), rules that formally state the analogical pattern on the basis of which one set of lexical items may be derived from another set. Case phenomena are described in terms of features on lexical items: intrinsic features of case form and case relation on nouns, determiners, and prepositions, and contextual case frame features on verbs and prepositions. It will be these case features and Derivation Rules that will be chiefly involved in the analysis of Formosan causatives in this paper. (For other studies in the lexicase framework, see the items marked by an asterisk in the References).

In syntactic terms, a causative construction is one in which an extra agent or force actant is allowed to occur with a verb in addition to the actants already lexically permitted by the verb's case frame. Semantically, this external agent or force is seen as causing the action, process, or state characterized by the verb. All human languages possess such constructions, and all must choose from two possible types: syntactic (or 'paraphrastic') and morphological. A syntactic causative construction is one in which a usually non-finite (subject less) verb with or without other accompanying actants is embedded under a verb of causation. The causation verb has an agent or instrument actant, the 'causer', and an object (often optional) acted upon by the causer. This object is interpreted as coreferential with the missing subject of the embedded sentence. For example in English:

I-1.



I-2.



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Regardless of what one may believe about deep structure gremlins, etc., in the surface structure it is clear that the second NP in both structures is the object of the matrix verb rather than the subject of the embedded verb, as can be seen from the corresponding passives:

I-3. The desert was made to bloom by John.
I-4. *The desert bloom was made by John.
I-5. John was caused to believe in gremlins by the accident.
I-6. *John to believe in gremlins was caused by the accident.

The actual subject of the embedded sentence, then, does not normally appear overtly in a syntactic causative construction, and the fact that it is coreferential with the matrix object must be formally characterized in a grammar.

A morphological causative construction is one containing a morphologically marked causative verb. Such a verb differs syntactically from the corresponding non-causative verb in allowing an additional 'causer' actant on its case frame, and morphologically in having some overt marking which distinguishes it from the non-causative counterpart. Highly inflected languages such as Japanese (Taylor 1971:228-232) and Korean (Yang 1972:202-217) often have morphological causatives, while isolating languages such as Thai (Kullavanijaya 1974) of course must make do with syntactic causatives. Many other languages have both types.

1.4 As Alan Stevens has noted, a large number of Austronesian languages have morphological causative verbs marked by a prefix pa-, and these verbs "have to handle an added NP in terms of surface cases and in the focus morphology of the verb (Stevens 1973). Pa-causatives also occur in all the Formosan aboriginal languages I have studied. In this paper, I will describe these constructions in six languages: Amis, Bunun, Rukai, Saisiyat, Seediq, and Tsou. I will be especially concerned with explaining and formalizing the grammatical processes of causativization in "indirect action causatives" (Stevens 1973), that is, in the formation of pa-causatives from transitive verbs. Attention will be focussed on how these languages cope with the problem of accommodating a new case relation in the case frame of a verb which may already be hard put to signal the case relations it already takes, with the possibly limited set of case forms the language makes available to it. This problem is especially severe in the case of ditransitive verbs, and the way each of the languages handles this problem is especially instructive.

The different approaches taken by languages and linguists to the problem of indirect causation constructions differ in how they treat the case relation which corresponds to the unmarked subject of the non-causative counterpart (agent, dative, or objective for our purposes), and the new added 'causer' relation. Several approaches are possible. The easy way out from the point of view of the language is of course the syntactic causative construction. It will probably

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always prove possible to embed a sentence under a higher verb of causation, as previously described, instead of working out a means of accomodating an extra case relation in the case frame. This is a common expedient in several of the languages studied, and even some of the hardiest Formosan languages resort to this device when faced with the prospect of causativizing a ditransitive verb. In these constructions, then, the new agent comes in as an actant (usually the subject)of the matrix verb of causation, and the original agent of the non-causative cannot be overtly expressed at all. Instead, by a universal convention on the interpretation of syntactic causative constructions (Kullavanijaya 1974), the missing subject of the embedded non-causative verb is identified as coreferential with the object of the matrix causative verb.

A fairly simple approach to indirect causation is illustrated by Sre, a mountain Mon-Khmer language of Vietnam (Manley 1972). If the subject of a non-causative verb is in the objective case relation ([+NM, +OBJ]), it appears as the direct object of the corresponding causative ([+AC, +OBJ]); if it is in the dative relation ([+NM, +DAT]), it appears as the indirect object of the causative ([+D, +DAT] or [+DR, +DAT]); and if it is an agent ([+NM, +AGT]), it is not allowed to appear overtly with the causative at all. Like the syntactic causative, then, the agent (AGT) of the non-causative is not allowed to appear overtly in the causative sentence; unlike the syntactic causative, however, no means at all is provided to grammatically determine the identity of the missing performer of the action (Manley 1972:64):

	1	2	3		
I-7.	caw	pu'	'añ	1 2 3	
	[+NM, +AGT]	[-caus]	[+AC, +OBJ]	People beat me.	
	1	2 3,	,4	1 2	3 4
I-8.	khay	ton-pu	añ	He caused (someone) to	beat me.
	[+NM, +AGT]	[+caus]	[+AC, +OBJ]		

1.5 The approach taken by Formosan languages is not quite this drastic. Their indirect causation constructions conform generally to the pattern presented by Stevens for Austronesian languages. (1973):

NP	- pa-verb -	NP	- NP	-	NP
[causer]		[agent]	[object]	[other case	relations]

Thus, the new causative agent and the original agent of the non-causative verb are allowed to coexist in the same simple sentence. In analyzing such sentences, it seems Stevens has found it necessary to introduce a new case relation, "causer", a relation occurring only with causative verbs, and to state that the other case relations are signalled by redistributing the surface cases or focusses to different case relations, again in a way that is unique to causative verbs. He mentions for example that the "associative" focus may be used for "object", and "object" focus for "agent" with causatives in many Philippine languages.

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This type of approach has also been taken for example by Mintz for Bikol (1973:178-184) and Schachter for Tagalog (1962:321, cited in Mintz).

There are a number of drawbacks to this approach. One is that the new 'causer' case relation is unique to causative verbs, as is the 'redistribution of functions' Stevens speaks of. Thus although the grammatical properties of the following two Tagalog sentences are identical, Stevens' approach would require completely different analyses (I use my own notation for cases):

I-9.

1	2	3	4	5	6	7
nagbigay	ang	nanay	ng	adobo	sa	lalaki
[-caus]	[+NM, +AGT]		[+AC, +OBJ]		[+L, +DAT]	

2 3 1 4 5 6 7
The mother gave the adobo to the man.

I-10.

1	2	3	4	5	6	7
nagpakain	ang	nanay	ng	adobo	sa	lalaki
[+caus]	[+NM, +CAUS]		[+AC, +OBJ]		[+L, +AGT]	

2 3 1 4 5 6 7
The mother fed the adobo to the man.

Compare the corresponding non-causative:

I-11.

1	2	3	4	5
kumain	ang	lalaki	ng	adobo
[-caus]	[+NM, +AGT]		[+AC, +OBJ]	

2 3 1 4 5
The man ate the adobo.

If the causative verb existed and its non-causative source did not, there would be no hesitation about analyzing I-9 and I-10 in exactly the same way; in particular, nanay 'mother' in both sentences would be considered the AGT and lalaki 'man' the DAT (or whichever terms correspond to these in a given analysis). However, because of the existence of the related I-11, a totally different analysis must be assigned, a new and very suspicious case relation must be added to the inventory, and important generalizations about the mapping of case relations onto case forms must be abandoned.

An alternative approach, and one that according to Mintz was followed by both McKaughan (1958:27) and by Stevens himself for Bikol (1969:3), is to accept the clear evidence of surface case and focus affixes, treating the causing agent as grammatically the AGT, and the original actor as somehow demoted to OBJ when in the subject position, and to DAT when not the subject (Stevens 1969). I will adopt just such

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an approach in this paper. The claim that 'causer' in a causative sentence is grammatically the agent is amply supported by evidence from Formosan languages. For example, one of the best proofs is the clitic pronouns in Tsou. These clitics are always coreferential with the agent of an agentive sentence, and in causative sentences, they are always coreferential with the 'causer', not the actual performer of the action. In Amis, agentive transitive sentences regularly allow corresponding passives in which the agent appears in the genitive case form, while no other case may occur there. In passive causative verbs it is the 'causer' which appears in the genitive case form, not the actual performer of the action. If 'causer' and 'agent' are considered separate case relations, these generalizations can no longer be stated in the grammar.

Conversely, if the actual performer is considered the grammatical agent in a causative sentence, it is not possible to explain why an affirmative causative can be used in the past tense in a situation in which the alleged agent did not in fact perform the action. Thus in Amis, papimilaw 'cause-transitive-see' can mean either 'cause someone to see something' or 'ask someone to look at something'; papikorokoron 'cause-transitive-roll-passive' can mean either 'cause someone to roll something' or 'ask someone to roll something'. These verbs can be used appropriately regardless of whether the action of 'seeing' or 'rolling' actually took place. This is explicable if we say that the causer is the grammatical agent, that he or she did perform an act of requesting, and that the potential performer was involved in some way in the action whether he actually performed it or not. The fact that the 'causer' in Stevens' formula appears in the pre-verbal topic position in indirect causation sentences does not necessarily indicate some unique grammatical status for the 'causer' relation, since in Formosan languages, especially Saisiyat, Atayal, and Seediq, it is quite normal and in fact the rule rather than the exception to topicalize the subject when the verb occurs with two or more actants. Since the unmarked subject of agentive verbs in these languages is the agent, one would expect the grammatical agent to appear in the position in which we find the'causer'.

Such an approach is not one, however, which can be easily or naturally adopted in a transformational analysis deriving causatives from a sentence embedded under a higher CAUSE verb, since having a deep structure agent turn up as a surface structure object or dative would violate the stricture against allowing transformations to change meaning. This is however a problem not with the analysis but rather with the transformational model. It presents no difficulties for a lexicase approach, since of course lexicase does not employ deep structures or transformations.

What I will claim in this paper, in summary, is that there is no separate 'Causer' case relation, and no concomitant redistribution of the functions of case forms in realizing case relations. That is, the 'causer' is always grammatically the AGT (or possibly the instrument INS), and the original AGT is demoted to some other case relation and realized in exactly the same way with a causative verb that is with a non-causative verb of the same syntactic class.

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1.6 Some readers may find this conclusion unacceptable because of cases such as those mentioned by Stevens where an "object" focus is used to mark an agent. Apparently the same sort of example in Paiwan, a southern Formosan language, is given by Ferrell (1971b:3):

I-12.	ACTIVE	(In focus:)	CAUSATIVE	(In focus:)
(AF)	q/m/iladj	(one who sits)	pa-qiladj	(one who causes someone to sit)
(OF)	-	-	pa-qiladj-en	(person who is caused to sit)
(RF)	qiladj-an	(place one sits)	pa-qiladj-an	(place one is caused to sit)
(IF)	si-qiladj	(buttocks, reason for sitting, as to hold a child)	si-pa-qiladj	(reason for which one is caused to sit)

In this set of forms, it appears that the AGT of the non-causative verb, the one who sits, is treated by the causative verb as if it were the object of causing-to-sit; if we assume however that intransitive action verbs like 'sit' do not have an AGT in their case frames at all, the picture changes. Suppose instead that they have an object (OBJ), which is the normal unmarked subject choice for such verbs. This is not a purely ad hoc expedient, and is in fact supported by a considerable amount of evidence for English (Starosta 1971b:444-6), Sre (Manley 1972; Starosta 1971d:89-90), and from Polynesian nominalizations (Biggs, personal communication). Under this assumption, the so-called Philippine AF form for intransitive verbs has an OBJ subject, not an AGT AF then is not really 'Agent Focus', but would better be considered the unmarked 'Active Form', which may have as a subject either OBJ, DAT, INS, or AGT, depending on the language and the verb class. Someone who defines AGT in terms of 'intent' by using for example an imperative test (cf. Anderson 1971:41) may find this conclusion suspect; however, I feel that these criteria for discovering agents have never been satisfactory, and can be maintained only at the expense of ignoring such examples as "BE noisy!", "Be a man!", "Know the answers by Monday morning or die!", or making debilitating modifications in the grammatical model to accommodate them. When we substitute less subjective syntactic tests for these unworkable and subjective semantic ones (Starosta 1971b:444-6), all the indications are that the subject of all intransitive verbs is OBJ; and in fact that is a good definition intransitive verbs, if we make the additional assumption that every verb has at least an OBJ in its case frame if it has anything at all, and thus that AGT never occurs alone in a case frame. As far as I know, this assumption was first used in Taylor (1971:37), and has since proven extremely fruitful in lexicase studies by Li (1973) and Kullavanijaya (1974). If we reinterpret Ferrel's data in light of these assumptions, they turn out to be quite regular and normal.

I-13.	Non-causative	Subject	Causative	Subject
Active AF	q/m/iladj	[+OBJ]	pa-qiladj	[+AGT]
Passive OF	-	-	pa-qiladj-en	[+OBJ]
RF	qiladj-an	[+LOC]	pa-quilaj-an	[±LOC]
		[+INS; BEN]	si-pa-qiladj	[+BEN]

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Paiwan has the normal subject choice hierarchy for active sentences: if there is an AGT, it is the subject; if not, then DAT, else OBJ. For the non-causative verb, OBJ is chosen as the subject, so of course there is no distinct OF passive form (though there are apparently languages such as Hindi where intransitive verbs can be passivized). In the causative, however, AGT is present and automatically has priority as subject; the sitter, still in the OBJ relation to the verb, can be made the subject in a completely regular way, by constructing a passive OF sentence. When not in the subject position with the causative verb, I assume the 'sitter' is in the accusative (AC) case form, as it would be in other Formosan languages (see for example my discussion of Amis causatives).

If there is no redistribution of case-marking functions in causative verbs, as I am claiming, then an actant which comes out in the causative marked as, say, dative (DAT), must have been a DAT in the non-causative counterpart as well. The one exception is of course the agent. It would be impossible in case grammar as we now know it for a causative verb to cooccur with two agents simultaneously, one carried over from the source transitive verb, the other introduced by causativization. This would violate Fillmore's stricture against more than one instance of a given case relation occurring in a simple sentence. Thus the case relation which Stevens labels 'agent' in his formula must be some other case:

NP	NP		
[causer]	[agent]	NP	NP
AGT	?	[object]	[other cases]

Because of the way this case is treated in the focus and case-marking systems of Maranao and Bikol, as mentioned above, McKaughan and Stevens have proposed calling this case objective or dative. However, the choice of object must be ruled out immediately because every causative verb will already have carried over an object from the non-causative 'source' verb, and again, it is not permissable to have two instances of the same case in a simple sentence. Dative will work better; 'dative' is the case of the normally human entity "indirectly involved in the state or activity described by the verb" (Taylor 1971:44), and this could equally well apply to the performer of an action described by a causative verb. This is in fact also the solution adopted by Taylor (1971:228-233) for the analogous situation in Japanese. However, we meet the original problem again in causativizing ditransitive verbs, that is, verbs which already have a DAT in their case frame, a DAT which will have its own independent realization in the case frame of the corresponding causative verb. A language confronted by such a situation may choose the better part of valour, and simply refuse to causativize ditransitive verbs, as several of the Formosan languages do. For the more adventurous languages, though, there is still one possible case which may plausibly be chosen as the case relation of the actual performer of a caused action: Benefactive (BEN).

Like dative, benefactive is a case of a typically human entity indirectly affected by the action of the verb. It is true that being caused to do something would not always be considered beneficial to the doer, but if we extend the definition of BEN to include negative benefit, or 'detriment', under the heading of BEN (and again I believe there are

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independent reasons for proposing this), then this detrimental side of the relation would fit the causative situation.

There are reasons for thinking BEN is not a purely ad hoc choice as the case relation of the actual performer of the action of a causative verb. First, in Formosan languages at least, BEN is marked with the same case form as DAT when not a subject; in Rukai (Li 1973: 4.6.6) it can occur as the subject of a passive sentence, that is, in 'Object Focus'. Second, this assumption greatly simplifies the formal description of the process of causativization. These two reasons will be supported in more detail under the descriptions of the individual languages.

1.7 In the discussion so far, I have been assuming that a causative verb is a single lexical item, generally belonging to a syntactic class of verbs which includes other non-derived verbs as well, and has its own case frame and phonological and semantic representation. I would now like to offer some preliminary justification for a further claim: each causative verb has its own history. That is, causatives are not and cannot be derived by a synchronic rule of grammar. Each one enters the lexicon at a different period of time, and all must be listed in the lexicon. I doubt if there is any language in which all the syntactic, semantic, and phonological properties of all causative verbs are completely predictable by synchronic rules.

Generative semanticists have proposed deriving causatives by synchronic transformations, from an underlying structure in which a non-causative verb is embedded under a verb of causation (cf. Lakoff 1965). Thus, it has been proposed that 'kill' be derived from 'cause to become not alive', or 'feed' from 'cause to eat'. This position has been attacked be Chomsky and others because 1) the so-called 'causative' verb does not mean the same thing as the 'cause to' paraphrase, and 2) the supposed underlying structure provides positions for various modifiers that can never be realized in the surface structure (cf. Li 1973:5.1. 5.2). In a grammatical model as powerful and vague as 'generative' semantics, it is of course always possible to concoct some new device to circumvent these objections. There is however a simpler objection which I think cannot be so easily evaded, namely, that even it it were possible to predict that English contained a lexical item with a semantic representation something like "cause to become not alive", and even it it were possible to predict all its syntactic properties, there is no conceivable way one could use general synchronic rules to predict that this item will be pronounced /kil/. This information must be recorded in the lexicon of anybody's grammar, so there can be no question here of a generative semantic approach having simplified the lexicon: 'kill', 'die', and 'dead' and 'alive' must all have separate lexical entries. It is also a dubious claim that a semantic deep structure adds anything to a grammar: each lexical entry must contain enough information to show which semantic sub-tree it is substitutable for, and this information itself is a semantic representation. This raises the question (which I will not go into further here) of why this same information has to be represented redundantly in a 'deep structure'.

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1.8 The same arguments arise in the analysis of Formosan languages. Although there is much more phonological predictability in the derivation of Amis papimɨlaw 'show' from mimɨlaw 'see', the meaning cannot always be exactly predicted; and although we may predict that there will be a causative verb corresponding to Tsou bonu ~ ana 'eat', there is no way of predicting by a general synchronic rule whether the actual form will be poabónu, poabonúa, pa'bónu, *poaána, poaanéni, or *pa'ana; similarly, although we know that there is a word vanah 'know' in Amis, and that there should be a corresponding causative verb pa-vanah, we have no way of predicting an additional causative pa-sɨ-vanah 'teach in school', which is itself subject to further derivation with the causative pa-. Finally, although you know Saisiyat forms causatives with pa- and that it has a transitive verb kiLim 'seek', there is no way you can predict that the causative verb *pa-kiLim simply doesn't exist at all. Such idiosyncratic facts must be entered in the lexicon.

From these facts, it is obvious that morphological causativization in Formosan languages cannot be appropriately handled by transformations. Only in a language in which the existence and phonological, syntactic, and semantic properties of all causative verbs are completely regular and predictable would transformations be a desirable way to account for morphological causativization. Halle has recognized this and related problems (Halle 1973), but his 'filter' solution is just another way of saying that all derived and inflected forms must be listed in the lexicon, and has not really met the problems raised by attempting to treat derivation by synchronic rules.

1.9 The problem for a linguist then is to account for the generalities while allowing for the idiosyncracies. I have proposed a type of device called a Derivation Rule which does this (Starosta 1971a,c,d; for criticisms of this approach from a generative semantic point of view, see Seuren 1972). A Derivation Rule (DR) is a formal statement of an analogic pattern of word formation. It differs from a transformation in several ways. 1) it is not a generative rule in the usual sense; that is, while a set of transformations defines all and only the sentences (and words?) in the language at a given time, DR's define only the words that could be in the language; whether a predicted word actually does exist can only be determined by looking it up in the lexicon. 2) transformations apply to trees, and manipulate them; the input to a DR is not a part of a tree, but a lexical item in the lexicon; and the DR does not affect the input item in any way, but rather creates a new item corresponding to the input 'source' in certain formally specified ways.

As an example, consider a modified form of Taylor's DR for the formation of Japanese causative verbs (Taylor 1971:228). I consider only the part of the rule dealing with AGT-subject verbs:

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I-14.

$$\begin{bmatrix} \text{-causative} \\ +\left(\begin{bmatrix} \text{+NM} \\ \text{+AGT} \\ \alpha F_i \end{bmatrix}\right)\text{___} \\ \beta F_k \end{bmatrix} \longrightarrow \begin{bmatrix} \text{+causative} \\ \text{+der} \\ +\left(\begin{bmatrix} \text{+NM} \\ \text{+AGT} \\ \gamma F_x \end{bmatrix}\right)\text{___} \\ +\left(\begin{bmatrix} \text{+L} \\ \text{-src} \\ \text{+DAT} \\ \alpha F_i \end{bmatrix}\right)\text{___} \\ \beta F_k \end{bmatrix}$$

This rule can be read as follows: "For every non-causative verb with the semantic features [βF_k] and requiring an agentive subject with the permitted semantic features [αF_i], there can be a corresponding derived causative verb with the semantic features [βF_k]. However, this new verb requires an agent subject with semantic features not predictable from those of the subject of the source verb; and it has an additional actant, a dative constituent which has the same permitted set of semantic features as the subject of the source verb."

Notice that while the rule has not 'changed' the original AGT into DAT, it has established a correspondence between the two, which is the generality we want to capture.

In such rules, all other features are assumed to carry over unaltered, including case frame features. However, a newly derived verb adapts itself to the conceptual space available in ways that are not predictable by general rule; and if the 'source' verb allows an instrument, the derived verb will too, but it will be an instrument suited to the causing of an action, not to performing one. And more generally, the features βF_k themselves will not necessarily carry over intact in the process of word formation, and so are better omitted from the rule. The phonological representation of the new item will be identical to that of the source verb, unless it is modified by a morphological rule; in Japanese, for example, a /-sase-/ element will be added to stems containing the feature [+causative] added by this rule.

The new verb thus derived is from then on subject to the same processes of semantic and phonological change as the other items in the lexicon at that stage, and causative verbs entering the lexicon at different times will of course be subject to different sets of phonological rules. This reflects the fact that many so-called 'phonological rules' that have been proposed recently are historical rather than synchronic.

By describing Formosan causative verbs by DR's, it is possible to account for the observation that with a causative verb , the 'causer' is grammatically the agent and the actual performer is some other case, say BEN, while at the same time formally capturing the relationship between the BEN and the AGT of the non-causative counterpart.

1.10 Before continuing, it will be necessary to define some terms that play a role in describing Formosan causatives and Formosan syntax

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in general. Case is axionatic, and is the basis for other definitions in the system, so I will not really 'define' case, but just assume cases as given and note some of their properties.

OBJ: the objective case relation, according to Fillmore (1968:25)is "the sematically most neutral case, the case of anything representable by a noun whose role in the action or state is identified by the semantic interpretation of the verb itself." I will make the additional assumption that every verb has OBJ in its case frame if it has any case relation at all (of Starosta 1973).

AGT: the agentive case relation, as usual, is the case of the typically animate perceived instigator of an action (Fillmore 1968:24). However, by the assumption above, an AGT never occurs alone in a case frame, and is never the subject of an intransitive verb (see below).

DAT: the dative case relation is the case of the typically animate experiencer of a psychological event, the animate locus, source, or goal of the action or state expressed by the verb. It may in fact turn out to be a subtype of LOC, the concrete or abstract spatial location, source, or goal of the action or state (cf. Anderson 1971:100-118).

BEN: the benefactive case relation is the case of the typically animate entity affected by the action. It may also include several other semantic subtypes (cf. Starosta 1973).

My other case relations are defined approximately as Fillmore's are, though I use three-letter abbreviations instead of his single-letter terms.

NM: the nominative case <u>form</u> is the case form of the grammatical subject of a sentence. It is the least marked case form, the form taken by the basic case relation of verbs having only one. (Existentials are frequently exceptions to this, and a language may also possess a class of subjectless 'impersonal' verbs). I define subjects in terms of full noun phrases, not pronouns, since I find that in for example American Indian and Australian languages, pronouns tend to be a law unto themselves. However, pronouns may provide useful evidence in borderline cases.

Ergative verb: a verb which may have an AGT or INS in its case frame for some types, but whose unmarked subject choice is OBJ. An ergative language, then, is a language in which all the verbs are ergative verbs, that is, in which the unmarked subject choice for all sentences is OBJ. 'Unmarked' may refer to contrast with some other coexisting construction syntactically, morphologically, or semantically marked in comparison with the ergative sentence type (cf. Tchekoff 1973).

Accusative verb: a verb whose unmarked subject choice is determined according to a probably universal hierarchy of AGT -DAT - INS - OBJ. That is, if an accusative verb has an AGT in its case frame AGT will be its unmarked subject choice; if it has no AGT, the next choice will be DAT, etc. OBJ will be the unmarked subject of an accusative verb only if AGT, DAT, and perhaps INS, are not present in its case frame. As with

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'ergative', 'unmarked' has reference to any other coexisting verb type or construction whose subject choice differs from this, and which is marked with respect to this construction. An accusative language is then one in which all verbs are of the accusative type.

A language is not necessarily either all ergative or all accusative. Amis and Palauan (Wilson 1972:112) are examples of languages having both sentence types.

Active, Passive, voice: in an accusative or part-accusative language, a sentence type in which the accusative subject choice hierarchy is not followed, and which is marked with respect to one in which it is, is a passive sentence type. The unmarked type with which it contrasts, and which does follow the accusative hierarchy, is an active sentence type, and the active-passive distinction is called voice. In this, I follow tradtional usage, as characterized by Lyons, in excluding 'causative' from the category of voice (Lyons 1968:372 ff).

Active verb: a verb which selects the case relation of its subject in accordance with the accusative subject choice hierarchy.

Passive verb: a verb derived from and marked with respect to an active verb, which selects its subject according to a priority differing from the unmarked accusative subject choice hierarchy.

Transitive verb: a transitive verb is one which has a grammatical subject which is not in the OBJ case relation (cf. Kullavanijaya 1974).

Intransitive verb: an intransitive verb is one which must have an OBJ subject. This includes all ergative verbs by definition, as well as some passive verbs.

Lexical entry: the basic element of the lexicon; a complex of phonological, syntactic, and semantic information reduced to its simplest form by the extraction of all predictable and freely variable features.

Lexical item: a word; a fully specified complex of phonological, syntactic, and semantic information which acts as a syntactic unit.

Inflectional feature: a semantic feature which can be freely varied within a single lexical entry.

Inflection: a modification in the phonological representation of a lexical entry which corresponds to the choice of a particular inflectional feature.

Derivation: the creation of a lexical entry in a given syntactic category in accordance with a systematic analogy with a lexical entry in another syntactic category.

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Syntactic category: a set of lexical entries defined by a unique category feature and/or a set of case frame features.

These definitions are closely interrelated, and are based on several primitive notions such as the case relations, 'subject', and 'lexical item'. However, I do not think they are circular. All the terms in the system, including the primitives, receive at least an extensional definition by virtue of their direct or indirect association with elements of natural languages.

1.11 In the follwing sections, I will discuss the phenomenon of causative constructions in Amis, Bunun, Rukai, Saisiyat, Seediq, and Tsou. To the extent that my data allow, I will attempt to cover the following points for each language:

a) informants, locations, elicitation time

b) a brief impression of the general syntactic characteristics of the language.

c) a characterization of the case forms, case relations, and case markers operative in each language, and of how they map onto each other.

d) a discussion of voice, including ergative and what is usually referred to as 'focus' in Philippine languages, to the extent that this is relevant to causativization.

e) syntactic causative constructions

f) denominative causatives

g) the rule postulated for the description of causative verb formation in the language.

h) the formation of causative verbs from ditransitive verbs

i) active, passive, and causatives; direction of derivation

j) morphophonemics of causative formation

k) causation and topicalization

2.0 AMIS

2.1 My informant for Amis was Ms. Ann Lin 林明子, about 25 years old, a surgical nurse. She had been working in Taipei for three years, but used Amis frequently in talking with her relatives and other members of the Amis community in Taipei. Her home village is Natawran 南昌村 Nan-chang Ts'un, in Hualein County. Ms. Lin was an excellent informant, and made some very perceptive and helpful observations about her language during the course of our fourteen hours of elicitation.

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2.2 Amis is a verb-initial language. Compared to, say, Saisiyat, it makes little use of pre-verb topicalization although this is probably more common in connected discourse and narration. The verb is followed immediately by an agent in a passive sentence. Otherwise the subject or non-subject accusative constituent may follow, though the subject has a tendency to come at the end. I have found no clitic pronouns except for a pre-verbal ta in exhortative imperatives, which my informant glossed as 'go'. Independent pronouns have the same distribution as full NP's. The negative elements are grammatically the main verbs of the sentences in which they occur, with the rest of the sentence embedded under them as a non-finite complement. A negative verb may occur with its own grammatical subject and object in addition to the embedded sentence, or just with the enbedded sentence alone. Embedded sentences may occur with or without a complementizer (a 'future/purpose', na past), and a finite clause may occur as the OBJ actant with certain verbs. The imperative is passive in form.

Vebs may be derived from nouns in several ways, including a) instrumentalization: the common way of expressing INS in Amis is to derive a passive verb from the instrument noun, then embed the rest of the sentence under it as a non-finite complement; and b) possessivization: a verb meaning "to have N" or "to be provided or infested with N's" can be derived from a noun plus a prefix si-. Amis case markers make a distinction between personal and non-personal nouns.

1.3 Amis makes use of the following case relations, case forms, and case markers.

a) case relations:

AGT, BEN, COM, DAT, INS, LOC, OBJ, TIM

b) case forms:

NM, AC, G, L, C

c) case markers

NM: ko [-pers], ci [+pers]

AC: to [-pers], ci [+pers]

G : no [-pers], ni [+pers]

L : i [-dir], taaLaa [+src], namaka [+gol]; -an may also be affixed to the noun

C : a

The forms and relations cooccur as follows:

NM	AC	G	L -dir	L +src	L +gol	C

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AGT	X		X				
BEN	X	X		X			
COM							X
DAT	X	X	X	X			
INS	X	X	X				
LOC	(X)	(X)		X	X	X	
OBJ	X	X		X			
TIM				X			

2.4 According to Ferrell (1971b; 4-5), Amis has both active and passive voices, and each has its own full conjugation for topicalization ('focus' in Philippinist terms). He lists the following eight examples, which he attributes to Mr. A. Stejskal of the Evangelical Alliance Mission in Taitung:

M-1. (Act AF) mi-patay o tamław to fafoy i (to) lotok
kills CM man CM pig CM mountains
"the man kills a pig in the mountains"

M-2. (Pas AF) ma-patay no tamław ko fafoy i lotok
" a pig is killed by the man in the mountains"

M-3. (Act OF) o fafoy ko pa-patay-en no tamtaw i lotok
"the man kills a pig in the mountains"

M-4. (Pas OF) o fafoy ko-pa-patay-an no tamław i lotok
"a pig is killed by the man in the mountains"

M-5. (Act RF) i lotok ko pi-patay-an no tamław to fafoy
"the man kills a pig in the mountains"

M-6. (Pas RF) i lotok ko ko-patay-an no tamław to fafoy
"a pig is killed by the man in the mountains"

M-7. (Act IF) o sasti ki sa-pi-patay no tamław to fafoy
"the man kills a pig with a spear"

M-8. (Pas IF) o sasti ki sa-ka-patay no tamław to fafoy
"a pig is killed by the man with a spear"

I find these examples highly suspicious. Ferrell seems to be implying with the glosses that the active and passive distinction corresponds exactly to the active-passive dichotomy in English, while the various topicalization or focus forms seem to indicate emphasis, judging by the italics. However, this cannot be what is meant, since he has stated on page 3 that emphasis is independent of focus. Thus we are left with no hint about how to interpret the difference between, say, the active and passive OF sentences.

I have checked all these examples carefully with my informant, and think it may be worthwhile recording her reactions. She said that the wrong verb had been used throughout: patay can only be used for kill-

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ing people, whereas with pigs, the word is pacok. The word for person is tamdaw rather than tamaw. With respect to the individual sentences, she had the following comments:

M-1. The o should be replaced by ko. to is impossible after i.

M-2. Accepted.

M-3. The suffix should be -an, not -en.

M-4. 'by the man' cannot be expressed in these [OF] sentences at all; without it, M-4 is acceptable, and means "The thing killed was a pig." (Possibly she meant to exclude 'in the mountains' also, since she didn't include it in her gloss.)

M-5. Unacceptable.

M-6. Unacceptable. When told what the sentence was supposed to mean, she offered the following substitute:

M-9. i lootok ko tamdaw a mipaacok to vaavoy
"The man killed a pig on the mountain."

M-7. sasti is 'thin bamboo', not 'spear', and has a final glottal or post-velar stop. The sentence is unacceptable. As a substitute, she offered:

M-10. sasti?an a mipaacok no tamdaw ko vavoy
"The pig was killed by the man with a thin bamboo,"
literally
"The pig was thin-bambooed to death by the man."

M-8. "Completely wrong!" There is no grammatical slot available for 'pig'; without it, the sentence could have a rather forced interpretation something like, "The man's way of dying / reason for dying was the thin bamboo."

My tentative conclusion: there could be a dialect of Amis in which these examples are correct and natural, but I strongly suspect it is the King James dialect.

At the present state of my analysis, Amis verbs can be divided into three basic classes: ergative, active, and passive. As Tchekoff states with reference to Tongan (1973), the ergative sentences contrast with the non-ergative, or what I refer to as 'accusative' sentences, and within the accusatives, there is a contrast between active and passive (see the definitions in section 1.10). The main rules of verbal derivation operate to derive active accusative verbs from ergative verbs (Abilitativization, Transitivization), passive

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from active (Passivization), and causative from active (Passive Causativization and Active Causativization). Ergative verbs, which like statives are prefixed by ma- (cf. M-2 above), refer to processes which may be thought of as going on without reference to any particular agent or instrument. If an agent, dative, or instrument does occur with an ergative verb, the sentence is glossed with an "unintentional" meaning. (If an agent and an instrument cooccur in a sentence, intent is always implied, I think, which is why one of the characteristic of ergative sentences seems to be that AGT and INS never occur in the same sentence.)

An active verb derived from an ergative might have exactly the same case relations allowed as its ergative counterpart, then, (though of course realized by different set of case forms), but it will carry the interpretation of an action performed with intent. Such derived actives are prefixed by pi-, which becomes mi- in finite sentences. Ergative verbs of course have OBJ subjects, and passive verbs may have OBJ, BEN, or possibly DAT subjects. All passive verbs end in -en. My informant stated once that there were two different passive endings, but she was unable to explain what the difference was, and I was unable to discover any syntactic or consistent phonological distinction.

With ergative verbs, AGT, DAT, or INS can be carried by an optional genitive (G) case marker, and in passive sentences, G may realize AGT or DAT. I don't believe this necessarily implies that ergative and passive verbs are really nouns (cf. Ferrell 1971b:5-8), but I am not yet ready to commit myself on this point. It may be noted that a close association of genitive with the case form of AGT and INS is supposedly characteristic of ergative languages.

Since ergative and accusative verbs have different case frames, they are by definition in different syntactic classes, and transitivization is by definition derivation rather than inflection. Thus even if an ergative and a transitive verb have the same stem, they must have separate lexical entries and may undergo changes in phonological, syntactic, or semantic properties independently of one another. An example of this is satiriv 'stop'. As an ergative verb, it allows OBJ, AGT, and a sentential complement, and means 'to stop OBJ from doing Sent'; as an accusative (active or passive) verb derived from the ergative, however, its properties are different; it no longer allows a sentential complement, but instead requires that the OBJ be an action nominalization or abstract noun:

	1	2	3	4	5	6	7	
M-11.	ma-satiriip	a	tmaŋic	ni	panay	ko	waawa	(M 30.6)
	[+erg]		[-fin]	[+G, -pers, +AGT]		[+NI, +OBJ]		

5 1 6 7 2 3

Panay stopped the child from crying.

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M-12. 1 2 3 4 5 6 7
mi-satiriv ci paanay to caaLivat no matoaasay (M 30.5)
[+accus, -pass] [+NM, +pers, +AGT] [+AC, +OBJ]

3 1 4 7- -7 6 6
Panay soothed the old man's anger.

1 2 3 4 5 6 7
M-13. satiriv-en ni panay ko caaLivat no matoaasay (M 30.4)
[+accus, +pass] [+G, +pers, +AGT] [+NM, -pers, +OBJ]

4 7- -7 6 5 1- -1 2 3
The old man's anger was soothed by Panay.

(the numbers in parentheses are the numbers of these sentences in the original data.) In M-11, I have not attempted to translate the 'ergativeness' of the sentence. tmanic is an infinitive, as indicated by the a complementizer and the absence of case markers. The difference between stem-final -p as opposed to -v does not seem to be consistently maintained. /v/ is phonetically [β], and the two may be in free variation.

In M-12 and M-13, panay is the AGT and caaLivat no matoaasay 'the anger of the old man' is the OBJ. caaLivat is a noun here, as indicated by the case markers to and ko and the absence of verbal prefixes. The fact that the active and passive sentences share the same syntactic properties as opposed to the ergative supports my claim that the direction of derivation is ergative to active to passive. A syntactic change occurs spontaneously in the active form after or at the time of derivation, and this change is carried over in passivization.

2.5 I have not encountered any syntactic causative constructions in Amis. Probably they are possible but unnecessary because of the great productivity and flexibility of morphological causative formation.

2.6 Amis has several productive processes of verb formation related to causativization, including resultative (maka-), abilitative (paka-), and transitive (mi- ~ pi-) derivation. However, I will be mainly concerned with a discussion of the formation of pa- causative verbs in this paper. The rule for deriving active causative verbs in Amis may be formalized as follows:

M-14. $$\left[\left[+\left[\begin{matrix}+\text{NM}\\ \left(\begin{matrix}+\text{AGT}\\ +\text{DAT}\\ +\text{OBJ}\end{matrix}\right)_1\\ \alpha F_1\end{matrix}\right]\right]\ -\text{passive}\right] \longrightarrow \left[\begin{matrix}+\text{causative}\\ +\left[\begin{matrix}+\text{NM}\\ +\text{AGT}\end{matrix}\right]\\ +\left[\begin{matrix}-\text{NM}\\ \left(\begin{matrix}+\text{BEN}\\ +\text{DAT}\\ +\text{OBJ}\end{matrix}\right)_1\\ \alpha F_1\end{matrix}\right]\end{matrix}\right]$$

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It applies only to accusative active verbs with AGT, DAT, or OBJ subjects, and derives corresponding active causative verbs which differ in that they add a new AGT to the case frame. It the source verb already had an AGT subject, the derived verb adds a corresponding BEN constituent in its case frame.

If the rule applies to an underived verb with an OBJ or DAT subject, the resultant verb has a pa- prefix directly before the stem:

NM-OBJ

M-15. ma-rɨbaahoy ko ʔaayam naamaaka badaa hoŋ taaLaa Lootok (M 121)
1 2 3 4 5 6 7 8
[-pass] [+NM, +OBJ] [+L, +src, +LOC] [+L, +gol, +LOC]

2 3 1 4 5-6 7 8
The bird flew from the roof to the mountain.

M-16. pa-rɨbaahoy-ən no waawaa ko ʼaayam (M 120)
1 2 3 4 5 6
[+caus, +pass] [+G, +AGT] [+NM, +OBJ]

5 6 2 1- -1 3 4
The bird was (released and) made to fly by the child.

NM-DAT

M-17. maa-vaanah ci paanay [(a) na caay ka tmaaŋic ina daavak kina waawa] S (M 112.1)
1 2 3 4 5 6 7 8 9 10 11 12
[-pass] [+NM, +DAT] [+AC, +OBJ]

3 1 11 12 5 6 3 9 10
Panay knows that this child didn't cry this morning.

M-18. paa-vaanah kaako i ci paanaay-an [na caay ka tmaaŋic ina daavak kina waawa] S (m 112)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
[-caus] [+NM, +AGT] [+L, +DAT] [+AC, +OBJ]

3 1-2 6 14 15 8 9 11 12 13
I informed Panay that this child didn't cry this morning

However, the simple pa- type causatives are rather infrequent in Amis. Much more common are the type prefixed by papi-. These are causative verbs derived from derived active transitives prefixed by pi-. These transitives are derived from ergatives by quite a productive rule

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of transitivization, and as active verbs, they are then subject to the normal causative derivation rule:

G-DAT

M-19. ma-mɨlaw no maako kisoo innasaaai. (M171)
[+erg] [+G, +DAT] [+NM, +OBJ] [+L, +TIM]

I just saw you.

M-20. m-pi-mɨlaw ko waawa to toomay (M125)
[+accus, -pass] [+NM, +DAT] [+AC, +OBJ]

The child is watching the bear.

M-21. paa-pi-mɨlaw to waawa to toomay ci panay (M123)
[+caus, -pass] [+AC, +DAT/BEN] [+AC, +OBJ] [+NM, +AGT]

Panay told / asked the child to look at / look after the bear.

G-AGT, G-INS

M-22. ma-nanoaŋ ko kiLaŋ no baaLi (M147)
+erg [+NM, +OBJ] [+G, +INS]

The tree is waving in the wind.

M-23. m-pi-nanoaŋ ko waawa to kiLaŋ (M146)
[+accus, -pass] [+NM, -pers, +AGT] [+AC, +OBJ]

The child is shaking the tree.

M-24. paa-pi-nanoaŋ ci panay i takoan to kiLaŋ (M146.1)
[+caus, -pass] [+NM, +pers, +AGT] [+L, +BEN] [+AC, +OBJ]

Panay made me shake the tree.

The active causative verbs in the above examples are grammatically possible but according to my informant, they are quite rare. Much more common and normal are the corresponding passives paa-pi-mɨlaw-ən, and paa-pi-nanoaŋ-ən:

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M-25. m‡awən no waawa ko toomay (M126)
1 2 3 4 5
+pass [+G, +AGT] [+NM, +OBJ]

5 2 1 1 3 4
The bear is looked after by the child.

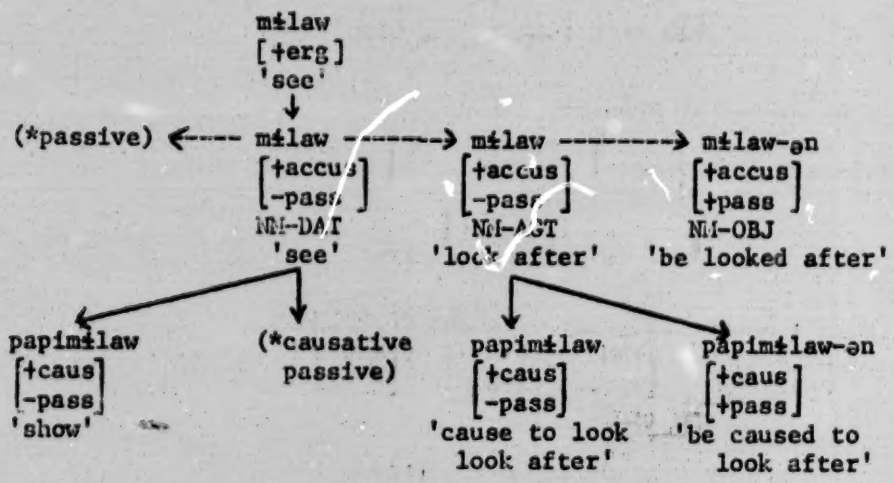
M-26. paa-pi-m‡aw-ən ni pasnay ko waawa to toomay (M124)
1 2 3 4 5 6
[+caus, +pass] [+G, +AGT] [+NM, +BEN] [+AC, +OBJ]

5 3 1 2- -2 6 4
The child was asked to look after the bear by Panay.

Note that the passive and causative passive forms of m‡aw mean only 'look after', while the active causative (and probably the simple active?) are ambiguous between 'see' and 'look after'. (The same division is found in Rukai and Seediq). This can be explained if we assume that 1) the transitive form of 'see' has undergone a semantic shift which derived a new agentive verb 'look after' by recategorization (cf. Anderson 1971:104 ff); 2) Amis does not allow passives to be derived from verbs with DAT subjects; and 3) active and passive causatives are separately derived from the active verb. This third assumption could only be avoided at the cost of a great complication in the formulation of the derivation rules. It seems less strange if we note that in Tsou, the causative rule operates on active verbs to produce only passive causatives.

If these three assumptions are accepted, we can propose the following derivational history for the various forms of m‡aw:

M-27.



The Amis passive causative rule can be formulated as follows:

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M-28.

$$\left[\left[\begin{array}{l}+\text{NM}\\ \left\{\begin{array}{l}+\text{AGT}\\ +\text{OBJ}\end{array}\right\}_1\\ F_1\end{array}\right]+\left[\begin{array}{l}-\text{pass}\end{array}\right]\right] \qquad \left[\left[\begin{array}{l}+\text{G}\\ +\text{AGT}\end{array}\right]+\left[\begin{array}{l}+\text{NM}\\ \left\{\begin{array}{l}+\text{BEN}\\ +\text{OBJ}\end{array}\right\}_1\\ F_1\end{array}\right]+\left[\begin{array}{l}+\text{pass}\\ +\text{caus}\end{array}\right]\right]$$

This could be combined with the active causative rule as follows:

M-29.

$$\left[\left[\begin{array}{l}+\text{NM}\\ \left\{\begin{array}{l}+\text{AGT}\\ \langle+\text{DAT}\rangle\\ +\text{OBJ}\end{array}\right\}_1\\ F_1\end{array}\right]+\left[\begin{array}{l}+\text{pass}\end{array}\right]\right] \qquad \left[\begin{array}{l}+\text{caus}\\ \beta\text{pass}\\ +\left[\begin{array}{l}+\text{BNM}\\ +\text{AGT}\end{array}\right]\\ +\left[\begin{array}{l}\beta\text{NM}\\ \left\{\begin{array}{l}+\text{BEN}\\ \langle+\text{DAT}\rangle\\ +\text{OBJ}\end{array}\right\}_1\\ F_1\end{array}\right]\end{array}\right]$$

However, due to the great disparity in the productivity of the two component rules, they should probably be kept apart, with the passive rule considered the primary causativization rule for Amis.

Morphologically, the distribution of affixes on these verbs is quite neat:

-en	affixed to all passives
pi-	prefixed to all derived active transitives
m-	prefixed to all finite derived active transitives (/m-pi/ = [mi])
pa-	prefixed to all causatives

Note that the presence of the -pi- in the causative form gives support to the syntactically motivated claim that both active and passive causatives are derived from the active form of the derived transitive verb.

This system would seem to account equally well for the situation Mintz describes (1973:178-9) for causatives in Bikol and Maranao, where the performer of the action can either be the subject of an OF (passive) causative, or marked with a referential case form when not the subject.

The order of the two AC actants in M-21 is fixed, since a reverse order would mean the bear is being asked to watch the boy. One justification for saying that the 'shaker' in M-24 is BEN rather that AGT is that it appears in the L case form, common for DAT and BEN but not possible for AGT in non-causative sentences. On the other hand, evidence that the causer <u>is</u> in fact the AGT is that it appears in the G case form in the passive causatives (M-26), as well as in ergatives. Thus one of the case-marking redundancy rules, needed in connection with the passive

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rule, states that all non-subject AGT's are realized as G:

M-30: $\begin{bmatrix}-\text{NM} \\ +\text{AGT}\end{bmatrix}$ [+G]

Amis causatives are very productive; even derived possession-location verbs such as si-pida 'have money' can be causativized:

M-31. 1 2 3 (M80)
si-pida ko waawa
$\begin{bmatrix}+\text{NM} \\ +\text{OBJ}\end{bmatrix}$

3 1 2
The child has money.

M-32. 1 2 3 4 5 6 (M163)
pa-pi-si-pida ko ka-kooLi-an naako
$\begin{bmatrix}+\text{NM} \\ +\text{AGT}\end{bmatrix}$ $\begin{bmatrix}+\text{AC} \\ +\text{OBJ}\end{bmatrix}$

4-5 1-2-3 6
The company enriched me. (kooLi is 'work'; cf. 'coolie', kú li)

The pi- is a problem here, since *mi-si-pida is not attested. (The ka-kooLi-an derived nominalization could be the one from which Stejskal (quoted by Ferrell 1971b:5) generalized his "Pas RF" construction.) I was unable to causativize the plain affirmative existential ira.

The causative derivation rule is not marked to prevent its application to ditransitives, and in fact it is possible to causativize babli 'give':

M-33. 1 2 3 4 5 (M2)
[-pass] babli ko matoaasay to Lima? (?ay) pida i waawa
$\begin{bmatrix}+\text{NM} \\ -\text{pers} \\ +\text{AGT}\end{bmatrix}$ $\begin{bmatrix}+\text{AC} \\ +\text{OBJ}\end{bmatrix}$ $\begin{bmatrix}+\text{L} \\ +\text{DAT}\end{bmatrix}$

2 -2 1 5 3 4
The old man gave the child five dollars.

M-34. 1 2 3 4 5 6 7 (M158)
papi-babli ci paanay i/to matoaasay to Lima ?ay pida i/to waawaa
$\begin{bmatrix}+\text{NM} \\ +\text{pers} \\ +\text{AGT}\end{bmatrix}$ $\begin{bmatrix}+\text{L}/+\text{AC} \\ +\text{BEN}\end{bmatrix}$ $\begin{bmatrix}+\text{AC} \\ +\text{OBJ}\end{bmatrix}$ $\begin{bmatrix}+\text{L}/+\text{AC} \\ +\text{DAT}\end{bmatrix}$

3 1 4 -4 2 7 5 6
Paanay asked the old man to give the child five dollars.

The absence of the mi- on babli in M-33 suggests this is a non-derived agentive transitive. In that case, the -pi- of the causative is presumably introduced by analogy. According to my informant, the passive form also 'exists', but is not used except possibly by small children. In my terms, it is derivable but has not yet been derived.

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It happens that since all papi- causatives (with the exception of si-pida and babli above) are derived form derived transitives, and since all derived transitives have DAT or AGT subjects and are interpreted as referring to actions under the conscious control of their subjects, papi- gets glossed as 'ask, request, tell, invite'. That is, these causatives carry the idea of an attempt to cause someone to make a decision to do something that is under his own conscious control. That for me is the essence of causation, and is reflected in the requirement in Thai causative constructions that the verb embedded under the causative verb be one signifying an action under the conscious control of its subject (Kullavanijaya 1974). Passive causatives derived from agentive transitive verbs, by this analysis, come out with BEN subjects. (As mentioned before, BEN is here defined in a wider sense to cover both positive and negative benefactiveness, that is, to include detriment.) It may be that these constructions correspond to what has been called the 'adversative' passive (Clark 1971), a passive construction describing an adversative affect on the subject. If the function of such sentences is to emphasize that the performer of the action undergoes an adverse affect, then it is understandable that the performer should almost exclusively occur as the subject and the actual causer be a grammatically optional and frequently omitted actant. The same effect can be seen in English syntactic causatives:

M-35. The conference participant was made to write a paper (by the ogres)

This is a point that might be followed up in any future field work.

2:8 My data still contain some causatives with missing sources and sources with missing causatives. Now that the operation of causation in Amis is somewhat clearer to me, I think I could fill many of the gaps by knowing what to look for. However, if causation is really lexical derivation as I have claimed, then it would be normal to find that the source of some of the causatives have been lost, and that some possible causatives have not yet entered the language. Compared to the other Formosan languages, it is surprising (and perhaps gratifying) that causation in Amis is as regular as it is.

3.0 BUNUN

3.1 I do not have very much data on Bunun. My informant was Mr. Ch'üan Cheng-ts'ai 全正財, about 35, a primary school teacher and farmer in Hsin-yi, Nan-t'ou Prefecture 信義(南投). He was only able to spare me nine hours of elicitation time during the week I spent in the village. He speaks Bunun with his family and friends daily. As an informant, he was affable and natural, but not particularly interested. I believe my predecessor, Jeng Heng-hsiung, said Mr. Ch'üan has been known to fall asleep in mid-elicit. For these reasons, my data on Bunun are very incomplete. I have however consulted Jeng's work where noted (Jeng 1969). I have not seen the work on Bunun by Wu (Wu 1969) cited in Ferrell 1971a.

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3.2 Bunun is a strong V S O language, with pre-verbal topics usually appearing only in answers to questions in my individually elicited examples. They may of course be more frequent in connected discourse. Bunun has vestigial pronominal clitics, which seem to be being replaced by a set of NM and AC pronouns which appear very frequently in immediate postverbal position. Both the negative element ni? and the prohibitive ka?a are main verbs of the sentences in which they appear. They may have their own full NP grammatical subjects. 'Adverbs' may also be the main verbs of sentences, and instruments are expressed with active verbs by embedding the verb under a higher verb 'use', either maqo?onní (AF) or a variant of keoni-án (OF). Imperatives, marked by an -í suffix, are grammatically passive.

There is no personal / non-personal distinction in nouns, though proper nouns can sometimes occur without determiners in subject position. Determiners are otherwise obligatory for subjects with all but indefinite mass common nouns.

3.3 Bunun employs the following case relations, case forms, and case markers:

a) case relations

AGT, BEN, COM, DAT, INS, LOC, OBJ, TIM

b) case forms

NM, AC, G, L, C

c) case markers

NM: ka-; ka, -i, -e; ∅

AC: ki-, to-; -ki, -ta; ∅

G: pronoun set

L: moonhán [+gol, +term, -iness]; mesnahaan [+src]
musoopa [+gol, -term ; kunaahán [+gol, +term, +iness]

C: i (also coordinating conjunction)

The NM and AC case markers have allophones determined by the final consonant of the preceding word: their consonants are retained after vowels, but may be assimilated or lost after consonants. The forms and relations cooccur as follows:

	NM	AC	G	L -dir	L +gol -term	L +term -iness	L +iness	L +src	C
AGT	X	X							
BEN	X	X							
COM	X	X							

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(cont.)	NM	AC	G	L	L	L	L	L	C
DAT	X	X	X	X					
INS	X	X							
LOC		X		X	X	X	X	X	
OBJ	X	X		(X)					
TIM		X							

3.4 Bunun transitive verbs exhibit a basic and productive active-passive distinction, but I have found no productive 'focus' system of the type known in Philippine languages. A few lexical items have a corresponding -an locative nominalization or an is- instrument / benefit nominalization which can be elicited in the appropriate relative clause context, but most verbs embed themselves under a general-purpose place nominalization (dediŋi?-an) or instrument verb (s-in-iŋku) when they find themselves confronted with this situation.

3.5 I have found two verbs used to form syntactic causative constructions, maskalún and pakasi?a-ok:

B-1. losbot a niyon maskalún ovadad munhaan lolona (B78)

1	2	3	4	5	6
[+V, +fin]	[+NM, +OBJ]	[+V, -fin]	[+AC, +OBJ]	[+V, -fin]	[+AC, +LOC]

2 3 4 5 6 1 7
Neon makes the child go to Lolona every day.

B-2. pakasi?a-ok madayŋad ta masaiv ovadad ta titi (B45)

1	2	3	4	5	6	7	8
[+V, +fin]		[+AC, +OBJ]		[+V, -fin]	[+AC, +DAT]		[+AC, +OBJ]

2 1 3 7 5 6 8
I made the old man give the child meat.

pakasi?a-ok is one of the few verbs I have found which seems to have incorporated a vestigial clitic pronoun which does not fit in the usual NM or AC sets. One may speculate that these are remnants of an older system, most of whose members have been lost, and that a new clitic system is forming from the former free pronoun sets.

3.6 Unfortunately I have not collected enough data on morphological causatives in Bunun to make any very general and reliable statements about them. Among the few pairs of related verbs I got in context were:

B-3. m-in-a?un in sak (B48)

1	2	3
[+fin]		[+NM, +AGT]

3 2 1
I have eaten my fill.

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B-4. 1 2 3 4 5 6
pa-kaon-am in ?aypa qaysiŋ (B44.4)
[+NM +BEN] [+AC +OBJ]

5 4 4 3 1-2 6 3 3
She has already been fed rice by you (pl) / us

None of my causative examples are clearly active, but some are definitely passive. The rest can be construed as passive, though it isn't certain because their subjects are missing, e.g.:

B-5. 1 ? 2 4 ? 5 6 7
qaylis-ok a ovad ?ad e [pa-ka?on saŋlav]S (B44.2)
[+fin] [+NM +OBJ] [-fin] [+AC +OBJ]

2 1 5 4 6 7
I often make the child eat vegetables.

From this sentence, we can't tell if the missing subject of pa-ka?on is the feeder (active) or the eater (passive); however, it is reasonable to assume it is the eater, since the subject of a complement sentence is normally identical to the subject of the matrix sentence.

Jeng (1969:143-4) lists some causative and non-causative pairs out of context:

manaq	'shoot'	panaq	'cause to shoot'
matad	'die'	patad	'kill'
makau	'get angry'	pakahau	'quarrel, fight'
ma'un	'eat'	pakaunan	'invite to eat'

I suspect the situation is not quite as simple as this list would make it appear. In my data, panaq is just a non-active or non-finite form of manaq; patad always seems to be prefixed or suffixed; and my informant would not give me an example with pakaunan. Jeng notes (p. 144) that the past tense form of pa- causatives is regularly pi-. He does not explain the -ka- element in pa-ka-hau, but it could be related to the inchoative ka in Rukai (Li 1973:166-170). Thus possibly:

ma-hau	stative
*ka-hau	inchoative
pa-ka-hau	causative

would be a normal Rukai-type derivation.

3.7 I was unable to elicit a morphological causative for the ditransitive verb ma-saiv 'give'. Instead, I could only get the syntactic causative given as example B-2.

3.8 The results of this brief investigation are clearly not very satisfactory, and it is hoped that Jeng's dissertation on Bunun will clarify the situation. In the meantime, it may be possible to glean more information from Jeng's texts (Jeng 1969).

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4.0 RUKAI

4.1 My field work on Rukai was carried out in conjunction with Dr. Paul Li, then of the Academia Sinica Institute of History and Philology, in Tung Hsing Hsin Ts'un, Pinan, Taitung Prefecture, a village where the Tarumak (Ta-nan) dialect of Rukai is spoken (cf. Li 1973:1.2). We spent about 25 elicitation hours with two informants, Rev. Fu-shou Wang and Mr. Te-tzu Lin. The latter was also Dr. Li's chief informant in his disseraation research.

4.2 Rukai is a verb-initial language. The subject may follow the verb immediately, or other actants may intervene. There is a productive system of NM clitic pronouns. The negative elements are syntactically main verbs. Imperative sentences are active rather than passive. Nouns in Rukai are divided into personal and non-personal, each with its own set of NM and AC articles. Topics may precede the main verb, but except for locatives, temporals, and the 'causers' of indirect causation sentences, they usually require a cleft sentence construction. For a full analysis of Rukai phonology and syntax, see Li 1973.

4.3 Rukai makes use of the following case relations, case forms, and case markers:

a) case relations
AGT, BEN, DAT, INS, LOC, OBJ, TIM

b) case forms
NM, AC, L I

c) case markers (excluding demonstratives)
NM; ku [+pers], ka [-pers]
AC: ki [+pers], ka [-pers, -spec], sa [-pers, +spec]
L : ?akai [-dir], ?akila [+gol], twalay [+src]
I : ara

The L and I case markers are coverbs, that is, prepositions derived from verbs (see Clark forthcoming). The table below indicates the possible form-relation combinations:

	NM	AC	L -dir	L +gol	L +src	I
AGT	X	X				
BEN	X	X				
DAT	X	X				
INS	X	X				X
LOC		X	X	X	X	
OBJ	X	X				
TIM		X				

4.4 As in Bunun, Rukai verbs are active or passive. In addition to the verbal passive, there are object, location, and instrument nomina-

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lizations which Ogawa and Asai (1935:337) treated along with verbal actives and passives as a single focus-like system (Li 1973:4.4.1). However, Li has shown (4.6.8) that these are relevant to syntax only in the sense that these nominalization processes form nouns, and nouns can be the predicates of equational sentences. In contrast to the true verbal passives, the sentences that these derived nouns occur in have all the syntactic properties of equational rather than verbal constructions. It is their ability as derived nouns to take a more varied set of attributes, actants traceable to their source verbs, that is misleading. Other linguists have noted these nominal characteristics of passive (non-AF) sentences in Formosan and Philippine languages (cf. Ferrell 1971b:5-8), but Li is to my knowledge the only one to sort out the evidence and make an explicit and satisfying account of their properties in one of these languages within the framework of a generative grammar. (Probably the system is more transparent in Rukai than in any other languages).

4.5 Rukai does have a syntactic causative construction with the main causative verb ranaw. (one of the informants claimed that there were two such verbs, one [ɣanáw] 'do willingly', and the other [rannawo] 'use force', but I was unable to hear the distinction consistently.)

	1	2	3	4	5	6	7	8	
R-1.	wa-ranaw	ko damay	[ani?alay	toalay	obola	(a)kila	tarumak	kay adadam]	
	[-pass, +fin]	[+NM, +AGT]			[+L, +src, +LOC]	[+L, +gol, +LOC]		[+NM, +OBJ]	S

(R 158b)

2 1 8 6 4 5 6 7

Damay made the bird fly from the mountain to Ta-nan.

R-2.	wa-ranaw	iDa adadam	ko damay	[ani?alay	toalay	obola	akila	tarumak]
	[-pass]	[+AC, +OBJ]	[+NM, +AGT]		[+L, +src, +LOC]	[+L, +gol, +LOC]		S

(same as R-1) (R 159)

	1	2	3	4	5	6	7	8	9	10	
R-3.	ni-ranaw-a	(ki damay)	[ani?alay	toalay	obola	kila	tarumak	kay adadam]			
	[+pass, +fin]	[+AC, +AGT]			[+L, +src, +LOC]	[+L, +gol, +LOC]		[+NM, +OBJ]			S

10 1-3 2 4 5 6 7 8 9

The bird was made by Damay to fly from the mountain to Ta-nan.

R-1 and R-2 are both active sentences, but in R-1, the bird is functioning as the subject of the complement sentence, whereas in R-2, it is the direct object of the causation verb. In R-3, the causation verb is passive, so its agent is regularly optional and in the AC case form. The bird could be the subject of either the matrix or complement sentence, but its position at the end suggests it is probably in the complement.

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There is also a kind of embedded quote causative that appears fairly frequently in Rukai:

```
                1     2     3          4          5        6        7
R-4.  ko lacin boada amiya na maroDan sa Lima ka ?ayso ina Lulay   (R 19)
      [+NM ]  [+imper]      [+AC ]          [+AC ]            [+AC ]
      [+AGT]        [+fin]  [+BEN]          [+OBJ]            [+DAT]

                  1    3      4- --4   2          7    5      6
      Lacing had the old man give the child five dollars. (3= quote)
```

```
                1  2  3  4     5          6    7    8          9   10
R-5.  mua si la?n si kauLiva iDa Lulay mua vilvil nia anato miya  (R 99)
      [+imp] [+imp]  [+imp]  [+AC ]  [+imp] [-fin] [+AC ]
                             [+DAT]                [+OBJ]

                  1  2  3        6    4  5    6    7    8        9
      Go and find the child and tell him to go shake the tree.
```

These constructions are still somewhat mysterious to me. The miya seems to be a verb, since it is inflected for past tense in R-4, but it comes after its object, the quote, instead of before; and in R-4, unless amiya na maroDan is an embedded sentence, or boada is some kind of compound verb, it seems impossible to draw a constituent structure tree for the sentence without using discontinuous constituents.

4.6 Li lists some examples of non-causative and causative forms of Rukai verbs (1973:5.1.5.2):

?acaɬ	'die'	? a-?acaɬ	'kill'
kanɨ	'eat'	? a-kanɨ	'feed'
davac	'leave'	? a-davac	'release'
kaDaw	'get big'	? a-kaDaw	'enlarge'
cɨɨl	'see'	? a-cɨɨl	'show'

Tarumak Rukai has undergone a regular sound change of *p to ?. The corresponding words in the Budai Rukai dialect, with ? replaced by p, will look more familiar to most Austronesianists.

Morphological evidence indicates that, like Amis and Bunun, causative verbs are derived from active rather than passive verbs. Unlike the other two languages, however, Rukai causatives are normally active rather than passive, and passive causatives are derived from active causatives rather than directly from active non-causatives. It may or may not be significant that my only examples of passives that are clearly derived from causatives are connected with causatives derived from intransitives like 'die' and 'break':

```
          1   2  3        4      5
R-6.  ki-a-?a-?acay kay cumay sa omas                    (R 151.2)

              4    1  2-3        5
      The bear was killed by someone.
```

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R-7. 1 2 3 4 5
ki-a-ʔa-ʔaθak inia maroDaŋ kay daLili (R 143.1)

5 1 2-3 4- -4
The bottle got broken by the old man.

The causative derivation rule in Rukai can accordingly be formulated as:

$$\begin{bmatrix} \begin{bmatrix} +\text{NM} \\ \{+\text{AGT}, +\text{DAT}, +\text{OBJ}\} \\ F_1 \end{bmatrix} \\ \begin{bmatrix} +\text{AC} \\ +\text{DAT} \end{bmatrix} \\ -\text{stative} \\ -\text{passive} \end{bmatrix} \longrightarrow \begin{bmatrix} \begin{bmatrix} +\text{NM} \\ \{+\text{AGT}, +\text{INS}\} \end{bmatrix} \\ \begin{bmatrix} +\text{AC} \\ \{+\text{DAT}, +\text{DAT}, +\text{OBJ}\} \\ F_1 \end{bmatrix} \\ +\text{causative} \end{bmatrix}$$

This rule differs from the one given by Li (5.1.5.2) in that the causatives derived by it also allow INS subjects:

1 2 3 4 5
R-8. ʔa-ka-oDiŋay sa airoʔa kay tiimuu (R 67.2)
[+AC, +OBJ] [+NM, +INS]

5 1 4 2 3
The salt makes the food become delicious.

1 2 3 4 5 6 7
R-9. ʔa-ka-oDiŋay sa airoʔa [arakai sa tiimuu] ko maL+ŋa (R 67.3)
[+AC, +OBJ] [+AC, +INS] S [+NM, +AGT]

7 1 4 2 3 5 6
Malinga made the food become delicious by using salt.

A further type of instrumental-subject verb remains unaccounted for in this study:

1 2 3 4
R-10. anniya baLbaL inniya Lolay koani sababo (R 102.1)
[+AC, +OBJ] [+NM, +INS]

4 1 3 2- -2
This medicine made the child toss and turn.

The causative rule proposed above differs from the others proposed for Amis and Bunun in that the AGT of the non-causative corresponds to DAT instead of BEN. This is allowed because Rukai does not allow ditransitive

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verbs to be causativized, so there is no danger of getting two DAT's in one case frame. It is necessary because of an example in which DAT and BEN cooccur with a causative verb:

	1	2	3	4	5	6	7
R-11.	ku	malɨŋa	ʔa-	-u-a-ba-	baas ki dulay	inia	kinsas sa guuŋ
	[+NI +AGT]				[+AC +DAT]	[+AC +BEN]	[+AC +OBJ]

(Li 1973:4.3.3.7)

1	2	6	3	7	4	6
Malinga	made	Dulay	cook	some beef soup	for	the police.

If this sort of thing is generally possible in other languages, of course, my AGT / BEN analysis will have to be revised.

Once a new causative verb has been derived, it carries over its old case frames, but it may possibly add new actants. For example, ʔaθak 'break' as an intransitive verb does not allow an instrument, but as a causative, it does:

	1	2	3	4	5	6	7	8
R-12.	ta-Dosa	kay	maroDaŋ	si	Loláy	ʔaʔaθak	ala	balbal inia romay (R139)
	[-fin]		[+NI +AGT]		[-fin]	[+I +INS]		[+AC +OBJ]

1	2	3	4	5	8	6	7
Together	the old man	and	the boy	broke	the bowl	with	a bamboo.

This is handled automatically: the new lexical entry is subject to all the usual subcategorization and redundancy rules. One of them predicts that every verb which takes an AGT also allows an INS. Since the verb has taken on an AGT in the process of causativization, it picks up an INS as a fringe benefit.

5.0 SAISIYAT

5.1 The Saisiyat dialect I studied is spoken in Wu-feng, in Hsinchu Prefecture. The Saisiyat community there is quite small, I believe, and apparently all the Saisiyats there normally speak Atayal or Chinese in daily conversation. I had three informants, but only one seemed to have a solid and fluent control of the language, with most of the phonological features I had been led to expect on the basis of Tsuchida's report on Saisiyat phonology (Tsuchida 1964). His name was Tähösä emew, Chu Chen-chang, about 79 years old. He was intelligent, interested, and helpful. Unfortunately, since he spoke almost no Mandarin and my Japanese was equally bad, we had to communicate via a Chinese-Atayal interpreter, which both of us found frustrating. The fact that the questions were being asked in Atayal might be thought to have contributed to the Atayal look of the structures I elicited, but I did as much cross-checking as possible, and found the informant's responses to be consistent and to match the sample of text given by Tsuchida reasonably well. I work only about ten hours with this informant.

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5.2 Saisiyat might be considered a V O S language, and in intransitive sentences, the subject usually follows the verb. However, in some intransitives and probably all transitive sentences, a full NP subject is topicalized to pre-verb position. Since this happens almost without exception, this construction type is the unmarked one, and it could be legitimately claimed that Saisiyat is rather a S V (O)~ V S language. This situation can no doubt be traced to the fact that like Atayal and unlike the other languages discussed so far, Saisiyat has no formal marking to distinguish NM from AC in nouns. As in the other languages, the negative element is the main verb of sentences in which it occurs.

There are no clitic pronouns in Saisiyat, only free-form pronouns with the same privileges of occurrence as full NP's. There is a distinction in form between NM, AC, and G pronouns, so as one might expect, pronominal subjects are more able to follow the verb than full NP's, even in transitive sentences. Imperatives are active rather than passive. There is a distinction made in NM and AC between personal and non-personal nouns. Demonstratives may precede or follow the noun.

5.3 Saisiyat employs the following case forms, case relations, and case markers:

a) case relations

AGT, BEN, COM, DAT, INS, LOC, MAN, OBJ, TIM

b) case forms

NM, AC, G, L, I, C, M

c) case markers

NM, AC: ka [-pers], hi [+pers]; ∅

G: ni

L: mina [+src] w/LOC, kah w/DAT

I: no, noka

C: ki

M: na

The following form-relation combinations are attested:

	NM	AC	G	L	I	C	M
AGT	X		X		X		
BEN	X	X			X		
COM						X	
DAT	X	X	X	X		X	

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	NM	AC	G	L	I	C	H
INS	X	X			X		X
LOC		X		X			
MAN			X		X		X
OBJ	X	X	X		X		
TIM		X					

5.4 Saisiyat verbs have the usual active-passive distinction we have seen with Amis, Bunun, and Rukai. However, I have not noted even the vestigial kind of derived instrumental and locational nominalizations found in, say, Bunun. This may be due partly to the fact that in Saisiyat, I wasn't particularly looking for them, whereas in Bunun I was. There are intransitive verbs and a process for deriving transitive verbs from them which is distinct from causativization, just as in Amis. However, these intransitives do not have the properties of ergative verbs, and thus it seems Saisiyat is a purely accusative language.

5.5 Syntactic causatives can use the main verb tomroŋ 'tell, urge' or kosa 'tell, say' or both:

S-1. iván tomroŋ ka korkoriŋ [komeLim ka tatara]$_S$ (S111)
[+NM, +AGT] [+fin] [+AC, +OBJ] [-fin] [+AC, +OBJ]

Iván had the child seek the chicken.

S-2. tatíni tomroŋ ka korkoriŋ komosa [sa? íla pakakəvi?ir ki ivan]$_S$
[+NM, +AGT] [+fin] [+AC, +OBJ] [+imp] [-fin] [+C, +COM] (S143.1)

The old man urged the child to go argue with Ivan.

S-3. tatíni komosa sa? ílah pakakəvi?ir ki korkoriŋ ki iván (S143)
[+NM, +AGT] [+fin] [+imp] [-fin] [+C, +DAT] [+C, +COM]

The old man made the child argue with Ivan.

S-4. komosa [sa? íla]$_S$ ki ivan [pakakəvi?ir ki korkoriŋ]$_S$ (S141)
[+C, +DAT] [+C, +COM]

I told Iván to go argue with the child.

S-5. korkoriŋ kosa?ən ni oya? [sa pä?rim ray helapaw]$_S$ (S118.1)
[+NM, +OBJ] [+pass] [+G, +AGT] [+AC, +LOC]

The child is told by the mother to go sleep on the bed.

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S-1 is a normal complement structure. S-2 is similar in structure, except for the k-om-osa 'say', which is probably acting as a quote complementizer here. Compare for example the following sentences

S-7. mar?äe?aiim yaako [komosa [rim?än ?am ?imaraw]$_S$]$_S$ (S103)
[+fin] [+NM +DAT] [+AC +OBJ]

I think that the weather will be clear tomorrow.

This phenomenon is common in other languages as well, for example Rukai, Dravidian (Rama Rao 1972:135-154), Thai (Kullavanijaya 1974), and Sora (Starosta 1967). S-3 and S-4 have the quote verb as the main verb. I suspect the gloss in S-3 may be wrong, since if it is correct, the constituent structure seems impossible to sort out without postulating discontinuous constituents. S-5 is the passive form of the quote verb.

5.6 Saisiyat has several prefixes that ssem associated with the Austronesian causative prefix pa-, including pa-, pä- (or pæ-). pa?-, pak-, paθ~pas-, and possibly paka-, and several that seem independent of it: ka-, and -anni. One word prefixed with paθ ~pas and two with pak- are glossed as 'wants to':

S-8. vaki? paθkaykayzäh hi ivan (S152a)
[+NM +AGT] [+AC +OBJ]

The old man wants to make Ivan good.

S-9. vaki? paθkaykayzäh ki ivan (S152b)
[+NM +OBJ] [+C +COM]

The old man wants to make up with Ivan.

The first of these is a true causative, but the second is still intransitive, and could be a case of accidental homonymy.

S-10. korkoriŋ pak-raLam ma-naazip (S136)
[+NM +DAT] [+AC +OBJ]

The child wants to study fishing.

S-11. vaki pak-hayza ka rayhil ka korkoriŋ (S130.1)
[+NM +AGT] [+AC +OBJ] [+AC +DAT]

The old man wants the child to have money.

pak-hayza is a causativized existential verb. Since there is an extra actant added to the case frame, this would seem to be a true causative.

pak-raLam on the other hand has exactly the same case frame as raLam 'know', so can't be considered a causative, especially since it does not seem to have an AGT or INS subject. Since I have no way of relating this desiderative meaning to causatives, I will have to provisionally assume homophonous desideratives pak- and paθ~pas-.

Saisiyat causatives are irregular and unproductive. The active examples I have fit the derivation rule established for Rukai. They are derived from active verbs. It seems causatives cannot be derived directly from statives, but require some intermediate stage in which a process verb is derived from the stative. One possible difference is that it may be possible to derive causatives from ditransitive verbs, something that can't be done in Rukai. (See below) The following sentences are examples of causatives derived from verbs with OBJ, DAT, and AGT subjects:

NI-OBJ

S-12. kahèya? minahawk ila ralom (S69.1)
[+NM, +OBJ]

Yesterday the water boiled.

S-13. koko pa?-inähawk ka ralom (S127)
[+NM, +AGT] [+AC, +OBJ]

The old woman made the water boil more.

NI-DAT (active and passive)

S-14. korkoriŋ komita? ka sivari? (S98)
[+NM, +DAT] [+AC, +OBJ]

The child saw a snake.

S-15. somay kita?in ni ivan (S134)
[+NM, +OBJ] [+pass] [+G, +DAT]

The bear was seen by Ivan.

S-16. ivan pa-kita? [ka korkoriŋ he koko] ka vaaLa? (S133.3)
[+NM, +AGT] [+caus, -pass] [+AC, +DAT] [+AC, +OBJ]

Ivan let the children and the old woman see the river.

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S-17. koko ki korkoriŋ pa-kita?-ən ka somay (S133)
1 2 3 4 5 6 7
[+NI +DAT] [+C +COM] [+caus +pass] [+AC +OBJ]

1- -1 2 3 6 4 5 7
The old woman and the child were made to see the bear.

NI-AGT

S-18. vaki? s-əm-i?al noka rima? ka ayam (S 31.1)
1 2 3 4 5
[+NI +AGT] [+ +INS] [+AC +OBJ]

1- -1 2 5 3 5
The old man ate the pork with his hand.

S-19. oya? pä-siäl ka äyam ka korkoriŋ (S 115)
1 2 3 4 5
[+NI +AGT] [+AC +OBJ] [+AC +BEN]

1 2 5 3 4
The mother made the child eat pork.

In the passive causatives (cf. S-17), the subject is not necessarily the OBJ, but rather the same case as the subject of the active source verb. This is difficult to formalize unless we assume, as in Amis and Bunun, that causative passives are derived directly from active non-causatives by a separate causative passive rule. Thus we have one rule similar to the Rukai rule for active causatives, and one similar to the Bunun rule for passive causatives. This is also the situation in Amis.

I was able to elicit a form which was glossed like a causativized ditransitive verb:

S-20. vaki? korkoriŋ hini rasəv rarayhil vorayanni hi ivan (S 108.1)
1 2 3 4 5 6 7
[+NI +AGT] [+AC +BEN] [+AC +OBJ] [+AC +DAT]

1- -1 6- 2 -6 7 4 5
The old man had the child give Ivan five dollars.

However, this is suspicious because of the stacked-up topics and the supposed causative morpheme -anni on the verb voray 'give'; this -anni does not appear with other causatives, and seems to be identical with the imperative:

S-21. rasəv rarihil voray-anni hi ivan (S 108)
1 2 3 4
[+AC +OBJ] [+AC +DAT]

3 1 2 4
Give five rubles to Ivan!

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This may be the same situation found when I attempted to elicit a causative version of 'give' in Rukai (R-4): I got an imperative followed by a quote morpheme amia, acting possibly as a single word. Conceivably, this -anni is also at least historically a quote verb.

I have noted that Saisiyat has a separate process of transitivization. It is similar to causativization syntactically, since it adds an actant to the case frame. However, if both processes apply to the same intransitive verb root, the result is two contrasting forms:

S-22. 1-om-aliw talkar laliŋos (S 43)
[+AC, +TIM] [+NM, +OBJ]

1- -1 2 3- -3
During an earthquake, the table may move.

S-23. koko 1-im-aliŋis ka talkar (S 44)
[+NM, +AGT] [+AC, +OBJ]

1- -1 2 3
The old woman moved the table.

S-24. korkoriŋ pa-lāliŋis ka walisan (S 123)
[+NM, +AGT/INS] +CAUS [+AC, +OBJ]

1 2- -2
The child bumped into the wild pig and it ran away.

In the transitive sentence (S-23), a motion that happens spontaneously becomes one tht is induced by an outside AGT. In the causative, spontaneous action is triggered by an outside AGT, thus explaining the example and the gloss. (Even though 'child' is animate, it is possible that the child might be an INS in S-24, especially if his action was not intentional.)

In Saisiyat, main verb 'manner adverbials' can be derived via causativization:

S-25. kayzāh (so?o) (S 131)
[+NM, +OBJ]

2 1- -1
(You) be good!

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S-26. 2
paaθ-kaykaydä? mar?äd ?adim (S 138)

2 1 1
Think well / carefully! (Compare S-8, S-9)

This same thing happens in Fijian (Shoji 1973), although I'm not sure if the resultant forms are syntactically main verbs.

No obvious conditioning has been found for the different forms of the causative prefix, possibly because of my very imperfect knowledge of Saisiyat phonology.

6.0 SEEDIQ

6.1 The Seediq I studied was the Taroko dialect as spoken in Bsɬɳan (Fu-shih, Hsiu-lin, Hualien Prefecture), at the mouth of Taroko Gorge on the East Coast of Taiwan. My data were collected during seventeen hours while I was acting as an assistant to Professor Lawrence Reid, and eight hours of my own elicitation. Our informants were Rev. Chin-ch'eng Wu and his relative, Mr. Wen-Chang Wu (Kato Laosing)吳全成,吳文章. The latter, an evangelist about twenty years old, was my informant during the eight hours' elicitation I conducted on my own. He was very able and enthusiastic, and was able to point out some of the differences between natural Seediq and the 'King James' dialect that he used in his preaching. I have also consulted the grammatical section of Asai's study of the paran and gwɽw dialects (Asai 1953), but have not studied the accompanying texts to any degree.

6.2 Although it allows preposed topicalized subjects, the Seediq I studied is strongly V O S in basic word order. It has verbal negative elements, like the other Formosan languages, and has a very well developed system of free and clitic pronouns differentiated for NM, AC, and G case forms. Imperatives are active rather than passive. There is no personal / non-personal distinction in nouns. Demonstrative determiners can be derived as progressive main verb 'auxiliaries'. This is also true of Atayal (Egerod 1966:348) and probably Poyoma (Sprenger 1972:136) and Rukai. Most Formosan languages can use a form of 'go' as a main verb 'auxiliary', but Seediq has developed a kind of adversative passive construction in which a sentence is embedded under a past form of 'go', waada:

1 2 3 4
Q-1. wa.da [ook-on] ka ii..w da (Q 102)
[+fin] [-fin, +pass] S [+NM, +OBJ]

The rice got eaten, 4 = completion

Compare its use as a full motion verb:

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Q-2: 1 2 3 4 5 6 6 8 9
[bɨniiqan booŋa laaqi-an] ka Loudən ʏaʔa oʔ waada bsɨŋan da (Q 302)
[+NM, +OBJ] [+fin] [+AC, +LOC]

5 4- -4 1- -1- 3 -i 2- -2 6-
That old man to whom the child gave the sweet-potato, he has

-6 8 9
gone to Fu-shih already.

6.3 Seediq employs the following case relations, case forms, and case markers:

a) case relations
AGT, BEN, COM, DAT, INS, LOC, OBJ, TIM

b) case forms
NM, AC, G, L, C

c) case markers
NM: sentence-final, normally with ka, or topicalized; pronouns
AC: post-verbal, optional ka for contrastive emphasis only, rather like Japanese ga
G : pronouns
L : pa'ah, kunudalah (Asai p. 57), [+src]; qooLi [+gol]; pronouns

As Asai notes (1953:46), AC and NM pronouns are distinct from each other in only a few forms. He suggest that NM pronouns may replace G pronouns for emphasis (p. 45). From his examples, and from my own inquiry, I would rather say that [+AC, +OBJ] refers to an OBJ as a whole, while [+G, +OBJ] has rather a partitive meaning. This use of G is also found in Tsou, and is in fact common in languages such as Russian (Jakobson 1936:257). The uses of G with negatives in Tsou and Seediq and verbs of similarity in Seediq (Asai p. 45) both have their counterparts in Russian 'genitive of negation' and 'genitive of similarity' respectively.

The contrastive use of ka can function with subjects or objects, though it is much more common on subjects. An example of the contrast in the subject position is:

1 2
Q-3. maaLok sɨnaw (Q 51)
[+NM, +OBJ]

2 1
The man is good.

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Q-4. 1 2 (Q 52)
maaLok ka sɨnaw
[+NM]
[+OBJ]

2 1
All men are good (and all girls are bad).

The following form-relation combinations occur in my data:

	NM	AC	G	L +src	L +gol	C
AGT	X	X	pro			
BEN	X	X			X	
COM		?				X
DAT	X	X	X		X	
INS	X	X				
LOC	X	X		X	X	
OBJ	X	X	X			
TIM		X				

6.4 Like the other Formosan languages, Seediq has an active-passive distinction, as illustrated in the following examples:

1 2 3 4
Q-5. qəmɨnita ko (ka) boosi yooji (Q 314)
[+NM] [+AC]
[+DAT] [+OBJ]

2 1 4 3
I saw Yoji's hat.

1 2 3 4
Q-6. qɨnta?an mo ka boosi yooji (Q 316)
[+pass] [+G] [+NM]
[+DAT] [+OBJ]

4 3 1- -1 2
Yoji's hat was seen by me.

1 2 3 4
Q-7. smiipaq tɨjima həliŋ ka yooji (Q 173.1)
[-pass] [+AC] [+AC] [+NM]
[+INS] [+OBJ] [+AGT]

4 1 3 2
Yoji hit the dog with a bamboo.

1 2 3 4
Q-8. paqan no tɨjima kəhəoliŋ (Q 173)
[+pass] [+G] [+AC] [+NM]
[+AGT] [+INS] [+OBJ]

4 1- -1 3 2
The dog was hit with a bamboo by me.

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The subject of both active and passive sentences comes sentence-final, except that clitic pronouns follow the verb immediately. The agent (or experiencer dative) in a passive sentence follows the verb immediately. If it is a pronoun (as in Q-6 and Q-8 above), it is in the G case form, otherwise in AC. There is a distinction in Seediq between neutral and potential sentences, for example:

Q-9. m<u>i</u>n<u>i</u>kan boŋa ka baboy (Q124)
[+AC +OBJ] [+NM +AGT]

The pig ate the sweet-potato

Q-10. məkan boŋa ka baboy (Q123)
[+AC +OBJ] [+NM +DAT?]

The pig can eat sweet-potatoes

Q-11. kato o? mkan ka booŋa (Q94)
[+NM +DAT?] [+AC +OBJ]

Kato is used to eating / able to eat sweet-potatoes.

I am not prepared to make a strong statement about whether or not Philippine-style locative or intrumental 'fooi' exist in Seediq. My impression is that they do not, but rather that again there are just a large number of nominalization types, some of which can be used as predicates of equational sentences. For example, we could set up a 'paradigm' of forms for 'sell' as follows:

AF ɤ-<u>i</u>m-baaLi
OF ɤ<u>i</u>-b<u>i</u>Liig-on
RF ɤ<u>i</u>-b<u>i</u>leeg-an

However, while the 'AF' and 'OF' forms are verbal in their syntax, all my examples of the so-called 'RF' form are clearly ordinary common nouns:

Verbs

Q-12. looden ni?i o? ɤ<u>i</u>mbaaLi baaboy na sayaŋ (Q248)
[+NM +AGT] [-pass] [+AC +OBJ] [+AC +TIM]

As for this old man, he's selling his pigs now.

Q-13. ni?i ɤ<u>i</u>b<u>i</u>liigon looden ɤa?a sayaŋ ka baaboy ni?i (Q250)
[+fin] [+pass] [+AC +AGT] [+NM +OBJ]

These pigs are to be sold by that old man now.

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Nouns

Q-14. binaaLi no ɣɨbɨleegan hiya (ka baaboy ni?i) (Q229)
[+pass] [+G, +AGT] [+AC, +LOC] [+NMI, +OBJ]

This market is where I bought (this pig). [Possibly the demonstrative hiya accounts for the emphasis of the gloss]

Q-15. məosa [maaLi baaboy]S ɣɨbɨLiigən hiya ka Looden ɣa?a (Q226)
[-AC, -OBJ] [-AC, -LOC] [-NMI, -AGT]

That old man is about to go to the market to buy a pig.

Q-16. bɨliigon loodən ni?i ɣɨbɨliigən ka baaboy ɣa?a (Q299)
[+pass] [+AC, +AGT] [+AC, +DAT] [+NMI, +OBJ]

That old man wants to sell the pigs to the market.

Q-17. ɣɨbɨleegən hiya o? ɣa sɨmbaaLi baabuy qooLi loodən ɣa?a (Q228)
[+NMI, +AGT] [+AC, +OBJ] [+L, +gol, +DAT]

This market is selling pigs to that old man.

Q-18. bɨnɨliigən loodən ni?i ka ɣɨbɨliigən (Q232)
[+pass] [+AC, +AGT] [+NMI, +OBJ]

The market is bought by the old man.

However, the verbal morphology of Seediq is quite elaborate and complex, so I would like to defer to the forthcoming work on Seediq by Lawrence Reid to provide the answer to the question of focus in this language.

6.5 I have recorded no examples of syntactic causative constructions in Seediq.

6.6 Seediq has several processes for deriving verbs from nouns. This is most commonly effected through an m- prefix or -m- infix, which according to Asai (1953:26-7) are related to the *IN ma- prefix and -um- infix respectively. Of interest for the purposes of this paper, however, is the form pəhwliŋ 'hunt with dogs', derived by causativization from hwliŋ 'dog' (Asai 1953.24). This prefix looks like the Austronesian causative prefix, although it is not one of the reflexes listed by Asai on pp. 23-24. This form has an exact parallel in Tsou (Tung 1964:192), poa-av?u 'hunt with dogs' from av?u 'dog' (ab?u according to Tung). The parallel example in Seediq suggests that either both these forms are verbs derived from nouns

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for 'dog', or else that the words for 'dog',in both languages are derived from verbs meaning perhaps something like 'pursue'. The former solution may be more likely, first because it is common for verbs to be derived from nouns with a causative morpheme (cf. Starosta 1971c:201), and second, because if poa-ʌv?u in Tsou had been derived from a verb by the usual Tsou causation rule, it should have come out passive, whereas as Tung notes, this word is exceptional in being in active voice. Thus I assume there must be a separate process forming causative verbs directly from nouns, though I have too few examples to attempt to formalize it here.

As a group, Asai's pɯk- causatives are stative or DAT-subject verbs. His analysis of pɯkita 'to cause to see' as pɯk-ita (p. 36) is based on a comparison with mita 'to see' instead of kita 'seeing, sight' which he also lists (the form in Bsɨŋan has q instead of k). The same false analogy may have been made in pɯk-ɯdɯs 'return to life' and mɯ·dɯs 'to live'. His other pɯk- forms can all be analyzed as having pɯkɯ- rather than pɯk- prefixed. One of them is attested in my data:

Q-19. 1 loodən 2 isiŋ 3 ni?i 4 o? 5 mɨha? 6 pɨkɨ-maaLo 7 mɨnaaLox 8 so (Q291a)
[+NMI +AGT] [+AC +OBJ]

3 1 2 4 5-6 8 7
This old doctor will cure your illness.

Q-20. 9 saapoh ni?i o? mɨha? pɨkɨmaaLo mɨnaaLox so (Q291b)
[+NMI +INS]

9
This medicine will cure your illness.

Compare:

Q-21. 1 Loodən 2 ni?i 3 o? 4 mɨha? 5 maaLo 6 ka 7 mɨnaaLox na (Q291.1)
[+TP +BEN] [+NMI +OBJ]

3- -3 3 1- -1 7 6 4 5- -5
As for this old man, his illness will get better.

Since this form only occurs in my data with a stative verb, it may be a construction of the type found in Rukai, and be analyzable as a pɨ- causative prefix attached to a kɨ- inchoative.

Below are example of Seediq causatives with OBJ, DAT, and AGT subjects for their source verbs:

NMI-OBJ

Q-22. məhóqəl 'dead' (elicited out of context, no example) (Q167)

Q-23. 1 wa 2 pooqəil 3 baboy 4 ka sɨnaw (Q167)
[+AC +OBJ] [+NMI +AGT]

4 1 2 3
The man is killing a pig.

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NM-DAT

Q-24. kɬlaʔon mo [sɬʔɬdžɬq baalay ka owaʔa ga] (Q181)
[+pass] [+G, +DAT] [+NM, +OBJ]

I know that that girl is very beautiful. Note that sɬʔɬdžɬq 'complete person; beautiful' seems to be the source of the name of the whole group and their language; as an example of modesty of autonomenclature, it is equaled only by 'Great Britain'.

Q-25. pɬkɬlaʔ kɬnnan ka yooji [waada mo bɬLeegon ka buuŋa soo da] mɬssa
[+AC, +DAT] [+NM, +AGT] [+AC, +OBJ] (Q281)

Yoji informed me (saying) "I have already bought your sweet-potatoes"

(note again the use of a postposed verb of saying as a complementizer, as in Rukai 4.5 and Saisiyat 5.5)

NM-AGT

Q-26. misaalo qhouni tɬlɬʔɬŋən (Q195.1)
[+AC, +OBJ]

. . . .will make a wooden chair. (Judging by other examples, this may rather be ". . . . will make a chair out of wood")

Q-27. psɬloʔon na tɬlɬʔɬŋən qhouni ka looden ka yooji (Q207.2)
[+pass] [+G, +AGT] [+AC, +OBJ] [+NM, +BEN] [+NM, +AGT]

Yoji made the old person make a wooden chair.

This is a strange sentence in that it appears to have two subjects. Since the verb is passive, we would expect on the basis of what we have observed in the other languages that 'the old man' would be the grammatical subject. However, 'Yooji' is in the subject position, and was in fact described by the informant as the subject of the sentence. He characterized the following variant with 'Yooji' in the normal position for passive agents as 'Not too pretty':

Q-28. psɬloʔon yooji tɬlɬʔɬŋən qhouni ka looden (Q207.1)

The old man will be made to make a wooden chair by Yooji.

The version Q-27 may in fact be a de-topicalized version of the following perfectly normal topicalized equational, which was the first of the three elicited:

Q-29. yooji oʔ psɬloʔon na tɬlɬʔɬŋən qhouni ka looden (Q207)

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The old man will be caused to make a chair by Yoji.

This is of course very close to the general form proposed by Stevens for Austronesian indirect action causatives. A gloss more in accord with its grammatical structure might be, "As for Yoji, the old man will be made to make a wooden chair by him."

In both Saisiyat and Seediq, the word for 'argue, fight' seems to be basically an intransitive 'reciprocal' verb (cf. Wilson 1972: 176-200), with either a conjoined or plural OBJ subject, or an OBJ subject with a C-COM actant:

Q-30. Lodən ɔ? mɬkɬhkan dɬha yoɔji (Q175.2a)
[+NM +OBJ] [+C +COM]

The old man has fought with Yoji (both equal participants in the combat; note that dɬha also means 'two')

Q-31. kɬhkan yaamo Loodən ga?a (Q275)
[+NM +OBJ] [+AC +OBJ]

You (plural) go fight with that old man! (where 'you' includes in its reference the old man as well as the addressee).

I am not sure how to analyze Q-31, but since the two actants are coreferential in the sense that 'old man' is included in 'you', I have assigned them the same case relation, thus producing a kind of reflexive analysis (cf. Starosta 1973).

This verb in both Saisiyat and Seediq can be recategorized as an agentive transitive, with a shift in meaning; instead of the battle being joined by mutual inclination, it is conceived of as being initiated by the AGT and directed toward the OBJ:

Q-32. Lodən ɔ? mkan yɔoji (Q175.2b)
[+NM +AGT] [+AC +OBJ]

The old man will fight Yoji.

The expression for 'argue' is 'fight with words':

Q-33. Lodən ɔ? mɬkɬkɔn kaaLi dɬha laqi (Q177)
[+NM +OBJ] [+AC +INS] [+C +COM]

The old man argued with the children (kaaLi = 'words')

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Q-34. ^{1}nik^{2}ɬkən kaaLi ka ^{3}Lodən ^{4}ni ^{5}laqi (Q176)
[+AC, +INS] [+NM, +OBJ]

^{3}- $^{-3}$ ^{4} ^{5} $^{1-2}$
The old man and the child quarreled.

The expression for 'argue' still has the character of a reciprocal verb, occurring either with a comitative actant or a plural subject. Note, however, that the phonological form of the verb has changed; this supports the claim that derivation has taken place, creating a new lexical item which is free to undergo its own process of change. Once this change has taken place, the word kaaLi is no longer necessary to indicate the difference, and can be omitted.

Q-35. ^{1}minkɬkkan ka ^{2}loudan ^{3}ni?i ^{4}ni ^{5}laaqi ^{6}ya?a (Q204)
[+NM, +OBJ]

^{3} $^{2-}$ $^{-2}$ ^{4} ^{6} ^{5} $^{1-}$ $^{-1}$
This old man and that child have argued; this old man has argued with that child.

The corresponding causative form is interesting because phonologically it preserves the internal -h-, but it has the presumably derived meaning 'quarrel' rather than the original meaning 'fight':

Q-36. ^{1}yooji ^{2}o? ^{3}pikɬhkan ^{4}loudən ^{5}dɬha ^{6}laaqi (Q206)
[+NM, +AGT] [-pass] [+AC, +OBJ] [+C, +COM]

^{1}Yoji $^{3-}$ made the $^{4-}$ old person $^{-4}$ quarrel $^{-3}$ with ^{5} the ^{6} child.

Q-37. ^{1}pikɬhkan ^{2}loudən ^{3}ni ^{4}laaqi ka ^{5}yooji (Q205.1)
[-pass] [+AC, +OBJ] [+NM, +AGT]

^{5}Yoji $^{1-}$ made the $^{2-}$ old $^{-2}$ man ^{3} and the ^{4} child $^{-1}$ quarrel.

Q-38. ^{1}pinikɬhkón ^{2}yooji ka ^{3}loudən (^{4}ya?a) ^{5}ni ^{6}laaqi ^{7}ni?i (Q203)
[+pass] [+AC, +AGT] [+NM, +OBJ]

^{4} $^{3-}$ $^{-3}$ ^{5} ^{7} ^{6} $^{1-}$ $^{-1}$ $^{-1}$ ^{2}
That old man and this child were made to quarrel by Yooji.

The discrepancy can be explained if we assume something like the following historical order of derivation:

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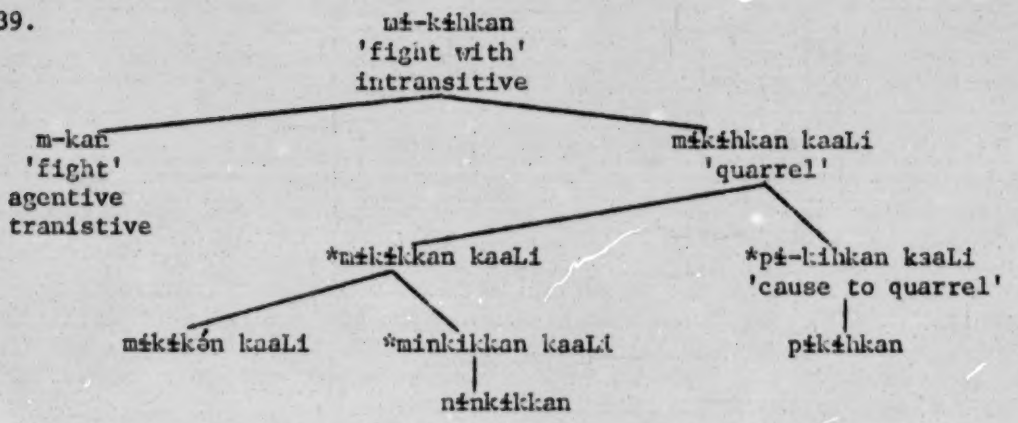
Q-39.



Then the causative form was derived after the creation of 'quarrel', but before the subsequent phonological change in the new item. Since no parallel homophonous form was derived from 'fight', it was free to drop the requirement for the cooccurrence of kaaLi without danger of ambiguity.

To explain mɨ-kɨkan kaaLi and mɨnkɨkkan, we might then suppose: 1) that h assimilated to the following k, 2) the perfect form *mɨnkɨkkan kaaLi was derived, subsequently dropping kaaLi because there was no danger of ambiguity; then 3) the kk cluster simplified in the past form only, which by this analysis was a separate lexical item. Perhaps here the kaaLi could not be dropped beacuse the form was getting too similar to a reduplicated form of the transitive verb m-kan.

An alternate explanation for this whole pattern that most readers might find more acceptable, of course, is that my transcription was inaccurate. However, when these forms showed up in more than one example, they were recorded consistently. Certainly more investigation of the phonological history of Seediq is required to make such explanations very credible.

On the basis of the evidence above, we might assume that Seediq is like Amis and Saisiyat in having two causative derivation rules. They would have different conditions of application, however; one would operate only on DAT-subject and (intransitive) OBJ-subject verbs, that is, on non-agentive verbs, and the other would operate only on AGT-subject verbs, and derive only passive causatives, while the former would derive active verbs:

Q-40.

$$\left[\begin{array}{l}\left[\begin{array}{l}+\text{NI}\\ +\left\{\begin{array}{l}+\text{DAT}\\ +\text{OBJ}\end{array}\right\}_1\\ \alpha F_i\end{array}\right]\\ -\text{stative?}\\ -\text{passive}\end{array}\right] \qquad \left[\begin{array}{l}\left[\begin{array}{l}+\text{NI}\\ +\left\{\begin{array}{l}+\text{AGT}\\ +\text{INS}\end{array}\right\}\end{array}\right]\\ +\left(\left[\begin{array}{l}-\text{NI}\\ +\left\{\begin{array}{l}+\text{DAT}\\ +\text{OBJ}\end{array}\right\}_1\\ \alpha F_i\end{array}\right]\right)\\ -\text{passive}\end{array}\right]$$

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Q-41.

$$- \begin{bmatrix} +\begin{bmatrix}+\text{NI}\\ +\text{AGT}\\ \alpha F_i\end{bmatrix} \\ -\begin{bmatrix}+\text{AC}\\ +\text{DAT}\end{bmatrix} \\ -\text{passive}\end{bmatrix} \qquad \begin{bmatrix} +\begin{bmatrix}+\text{NI}\\ +\text{BEN}\\ \alpha F_i\end{bmatrix} \\ +\left(\begin{bmatrix}+\text{G}\\ +\text{AGT}\end{bmatrix}\right) \\ +\text{passive}\end{bmatrix}$$

One unusual form that may be mentioned finally is ʔaaŋal 'cause to take', compared with maaŋal 'take', infinitive aaŋal (no glottal stop initial), (Q65). This is a perfectly good Tarumak Rukai derivation, but seems quite foreign to Seediq. I have no explanation to offer, unless I inadvertantly punch a hole in the wrong place on the card.

As indicated by the left side of Q-41, I was unable to causativize the ditransitive bɨ̆ray ~ biqi 'give'.

I have too little data to see if there is any kind of phonological conditioning for the choice of allomorph of the causative prefix for a given verb. Very generally, the distribution seems to be:

p- or pɨ̆- / __s
po- / ho
pa- or pɨ- elsewhere

7.0 TSOU

7.1 My most recent field work on Tsou was a week spent in Tapaŋu (Ta-pang, Wu-feng, Chia-yi Prefecture), during the summer of 1972. During that period I had about fifteen hours' elicitation time with Mr. Uoŋu Easiuŋu (An Chen-ch'ang), about 35, the vice-principal of a primary school in the area. Mr. An is an intelligent, careful, and helpful informant, and pleasant to work with. He was also my informant during five months' previous work on Tsou in 1964-65, and was Tung T'ung-ho's interpreter and one of his informants. This makes Mr. An the most experienced Tsou informants on Earth, and the speaker of Standard Tsou. I have also referred to Tung T'ung-ho's description of Tsou (Tung 1964). This is an excellent study--accurate, comprehensive, careful, thorough, and in some ways very insightful. One might say that the syntactic analysis almost approaches the case grammar framework, though I am sure Tung would not have appreciated the comparison. In working with Tung's material (which should be on display for the conference), a reader may wish to refer to my review (Starosta 1969), which contains among other things a list of Tung's terms and some more conventional equivalents. Tung's book is an extremely rich source of material on Tsou, and in this paper I have barely begun to make use of the material available, especially the 195 pages of accurately transcribed and literally glossed texts from the three dialects.

In this paper, I have used Tung's orthography, partly because I am accustomed to it and now find it convenient and natural, and partly because this may facilitate the work of those who would like to refer to both.

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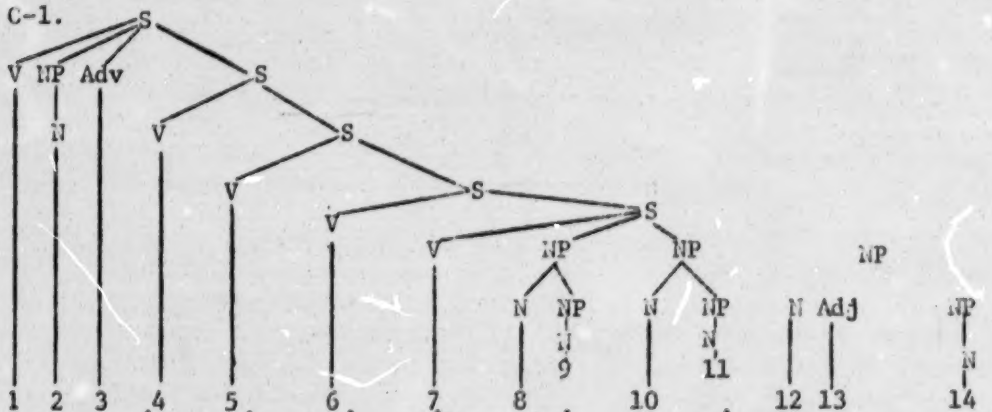
7.2 Tsou is a rather unusual language by Formosan standards, though I now find it not as strange as I had formerly thought. It is a V O S language, with negative elements acting as verbs. Preposing of subjects, time, location, etc., is quite free. Tsou has a highly developed system of 'auxiliary' verbs, each of them acting as the main verb of its clause. Since Tsou is a verb-initial language, it is quite common to have a series of such auxiliaries beginning a sentence, for example (Tung 1964: 368):

C-1.



i he cu cáeza ucíc toehúŋa seú?ca no méŋzu no iimúcu na nia eapse mukmana

11 4 5 7 13 14

The Iimutsu likewise intended to stab ancient Eapse Mukmana

9 6

with the lances together.

Most Tsou sentences occur with at least one auxiliary, a so-called 'beginner' (Tung 1964:58), and as these beginners must be grammatically the highest main verb, they are never preceded by another verb. Tsou does have clitic pronouns, and these always immediately follow the main verb, which is in almost all cases the 'beginner' (cf. 2 = he 'they' in C-1 above). The clitic system is unusual for Formosan languages in that the pronominal clitics invariably refer to the highest case in the accusative subject choice hierarchy, regardless of whether the sentence is active or passive; thus a post-beginner clitic pronoun in an active or passive agentive sentence, such as he in C-1, refers to the AGT; it refers to the DAT with dative verbs like 'see', active and passive, and to the OBJ with intransitive sentences. Free full-form pronouns on the other hand always and only correspond to the OBJ, (or non-subject DAT or BEN in an agentive sentence), and thus can be coreferential to the clitic pronoun only in intransitive sentences. This system differs from pronoun systems in other languages I have investigated in this study, since pronoun occurrence depends on case relation in Tsou, whereas it depends on case form in the other Formosan languages.

Imperatives are in the passive voice, as in some of the other languages; there is no personal / non-personal noun distinction.

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7.3 Tsou makes use of the following case forms, case relations, and case markers.

a) case relations

AGT, BEN, COM, DAT, INS, LOC, MAN, OBJ, TIM

b) case forms

MI, AC, G, L, C

c) case markers

MI: e, si, ta, o, na, co
AC: ta, to, nea
G: no, ci
L: ne
C: ho

The case markers are subdivided according to definiteness, proximity, and visibility. Tsou also has demonstratives, but they usually occur as pronouns, acting as the sole constituents of their NP's, usually with a LOC case relation. As in Seediq, a non-subject OBJ in Tsou may be either G or AC, depending on definiteness or possibly partitiveness. The following combinations occur in my data:

	MI	AC	G	L	C
AGT	X	X		X	
BEN	X	X			
COM					X
DAT	X	X	X	?	
INS	X	X	X		
LOC		X	X	X	
MAN			X		
OBJ	X	X	X		X
TIM		X		X	

7.4 All Tsou auxiliaries and other verbs are either active or passive. This is particularly clear in the auxiliaries, especially the beginners. These constitue two parallel sets of verbs, the active 'm-beginners' and the passive 'minus-m beginners' (Tung 1964:89). Historically, they are probably connected with the verb 'go', which can act as a tense-aspect auxiliary in other Formosan languages as well as Palauan. These beginners are (Tung p. 54):

Active: mo, moso(miso), moh, mi, mio

Passive: i, o, os, oh

Acitve/passive future: te, nte, nto, ta, tena, la, lea

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Tung rejects the use of the terms 'active' and 'passive' on methodological grounds (Tsou is not an Indo-European language, so we should not use Indo-European terms to describe it), but they seem entirely appropriate to me in the sense I have defined them in the introductory section.

Other verbs (except for intransitives) generally have two or more forms. A characteristic of verb complements in Tsou is that every verb is always in the same voice as the one under which it is embedded. (The few exceptions noted by Tung are too complicated to go into here). If a verb has two or more voice modes, one and only one of the forms will be compatible with the active 'beginners' listed above, and the others will be incompatible with the active beginners, but compatible with the passive beginners. That is, there is a clear binary distinction between the voice modes of a verb. If we examine the syntactic properties, we find that those compatible with active beginners are in fact grammatically active, and choose their subjects according to the standard subject choice hierarchy of accusative languages. The other forms are passive, and select their subjects according to priorities that are marked with respect to active sentences. Within the passives, we can distinguish the OBJ-subject type (OF), the DAT-LOC subject type (RF), and the benefactive-instrumental type (IF). These Philippine-style labels are appropriate because Tsou comes closest of all the Formosan languages I have personally examined to having a productive focus system. We may even use the other symbol, AF, to refer to the active sentences, as long as it is thought of as 'active form' and not 'Agent focus', that is, the subject of an AF sentence is the AGT only if the verb is agentive and not if it is dative or intransitive. Thus AF is different in kind from the other 'foci'; it is simply the unmarked verb form, the active form with the normal active subject choice hierarchy. The other forms group together into a passive set which is phonologically, syntactically, and/or semantically marked with respect to the active form, and they are quite appropriately referred to as passives.

7.5 Tsou does not seem to employ syntactic causatives, possibly because it has such a flexible and productive morphological causative formation system.

7.6 Verbs can be formed directly from nouns in Tsou by the addition of the usual causative prefix poa- (Tung 1964:192). The nouns tend to be words designating a particular social function of the name of a clan or village. An exception is poaav?u 'to hunt with dogs' from av?u 'dog', unless being a dog is considered a social function. The combination does seem to be a real causative formation, however, though it is grammatically exceptional in being active rather than passive, and it has an exact parallel in Seediq (6.6).

7.7 With one or two very rare exceptions (Tung 1964:193), all causative verbs in Tsou are grammatically passive. This is what led Tung to consider them as just another kind of inflected (focus) form: they grouped with other passives in their cooccurrence with beginners and their case relations with the actants in a sentence. (For convenience and clarity, I will use my own terminology even when discussing Tung's analysis. Any term that looks familiar or conventional is probably not one of Tung's). As examples of causatives, take the various focus forms of 'give' and their corresponding passives:

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C-2. 1 2 3 4 4 6
mo ʔu cu mofi to peisu to mamespiŋi (C 155)
[+HM +AGT] AF [+AC +OBJ] [+AC +DAT]

2 4 6 4
I gave the woman the money.

I have no example of 'give' in OF except in a relative clause, however, I will also give an example of the OF form of 'put', which is grammatically quite similar:

1 2 3 4 5 6 7 8 9
C-3. o [i si faéni te o ko] ci fʔúe naʔno mafe (C 53)
[+AC +AGT] OF [+AC +DAT] (OBJ)

7 4 5 8 9
The sweet-potato given to the child is very delicious.

1 2 3
C-10. te cʔu la sía ta chána ina taíhi (Tung: 412)
OF [+AC +LOC] [+HM +OBJ]

1 3 2- -2
Put the compost in the rice field!

1 2 3 4 5 6 7 8 9
C-5. ine hucma i si fii to no goo en to mo maméoi io no oko (C 1.1)
[+AC +AGT] RF [+AC +OBJ] [+AC +AGT] [+HM +DAT]

1-2 8- -8 5 9 6 7
Yesterday the old man gave the child five dollars.

1 2 3 4 5 6 7
C-6. aháʔva si eobaknéni no céoa na sʔofési no taunáeu (Tung: 270)
[+AC +AGT] IF [+G +OBJ] [+HM +INS]

2 1 3 4 6 5 7
He suddenly beat the ground with his stick of Taungaeû.

Since 'give' does not have an IF form, I have provided a form from 'strike' for comparison. With IF, an agent is expressible only as a clitic with the beginner (2) or possibly as the possessor attribute of the instrument (7).

The corresponding causatives are as follows:

From AF

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1 2 3 4 5 6 7
C-7. te ko n?a poamofi to maméoi to peisú o amoo su (C 97)
[+AC +AGT] [+pass] IF [+AC +DAT] [+AC +OBJ] [+NI +BEN]

2 3- . 6 -3 5 4- -4
(You) tell your father to give the money to the old man!

1 2 3 4 5 6
C-8. i si poamofía ta maméoi to peisu o oko su (C 105)
[+AC +AGT] [+pass] IF [+AC +AGT] [+AC +OBJ] [+NI +BEN]

3- -3 2- 6 5 -2 4
The old man told your child to bring the money.

From OF

1 2 3 4 5 6
C-9. te ko n?a poafáeneni to amoo su to maméói o péisu (C 96)
[+AC +AGT] [+pass] OF [+AC +BEN] [+AC +DAT] [+NI +OBJ]

4 2- 4 3 -2 6 5- -5
(You) tell your father to give the money to the old man!

1 2 3 4 5 6
C-10. te ko n?a poafaeninéni to maméoi o [te si ana] to ba?i (C 101)
[+AC +AGT] [+pass] OF [+AC +BEN] [+NI +OBJ] [+AC +DAT]

1 2- 3- -3 -2 4-5 6
(You) have the old man give the food to Granny.

1 2 3 4 5 6 7
C-11. i si poafaeninéni ta oko to amoo si to maméoi o peisu (C 99)
[+AC +AGT] [+pass] OF [+AC +BEN] [+AC +AGT] [+AC +DAT] [+NI +OBJ]

4 2- 3 -2 7 6- -6
The father made his child give the money to the old man.

From RF

1 2 3 4 5 6
C-12. te ko n?a poafiinéni ta mameoi to [te si ana] o ba?i (C 102)
[+AC +AGT] [+pass] RF [+AC +BEN] [+AC +OBJ] [+NI +DAT]

1 2- 3- -3 -2 4-5 6
(You) get the old man to take the food to Granny!

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C-13.

1	2	3	4		5	6	7	
i?o oko	i	si poafiinéni	ta maméoi	to [	te	si ana]	o ba?i	(C 103)
[+TP, +AGT]	[+AC, +AGT]	[+pass] RF	[+AC, +BEN]		[+AC, +OBJ]		[+NI, +DAT]	

1 3- 4- -4 -3 5-6 7

The child had the old man give the goodies to Granny.

From IF: impossible to derive causatives from IF verbs in Tsou.

If we compare the non-causative verbs with their causative counterparts, we can set up three morphological types:

Focus	Non-Caus	Class I	Class II	Class III
AF	mófi	IF: poa-mofi	--	AF: poa-mofi-a
OF	faéni	--	OF: poa-fáeni-néni poa-faen(i)-eni	--
RF	fíi	--	RF: poa-fii-neni	--

These types are referred to by Tung (1964:143) as the poa-inflection (I and III) and the poa-neni inflection (II). All Tsou causatives fit into these three categories, with a few -i suffix forms added to Class I. Their properties can be accounted for quite simply: Class II forms (poa-neni) are those causatives derived from passive causatives, whether OF or RF, and Class I and III are derived from AF forms. Syntactically, each adds a new AGT to its case frame, but the case relation it chooses as grammatical subject is the same as the relation of the subject of its non-causative source. The exception is of course the agentive verbs, where an AGT subject in the source is considered to correspond to a BEN subject in the causative to avoid having two AGT's in the same case frame. Morphologically, all causatives add poa- (or pa?- or p?-), and those derived from passives (OF or RF), also add -neni or -eni. Causativization is derivation by my definition, so it is normal to find non-predictable phonological changes in the causative form of faéni (fáeni according to Tung). Moreover, since the mo-, -eni, and -i focus 'inflections' and internal modifications carry over in derivation, it seems focus must also be considered derivation rather than inflection, by usual criteria (cf. Li 1973:5.0). The -(n)eni inflection on Class II causatives is the same as the 'dependent -neni' (Tung 1964:143, 225) suffix on non-causative OF and IF verbs, and in poafaeninéni and poafáeneni, we actually have the same affix twice; it is added first to the root in the original OF passive derivation, then again to the new derived form in causative passive derivation. Note that because of the suppletive character of the focus forms for 'give', there can be little doubt about the direction of derivation; the phonological shapes can be predicted only if Class I causatives are derived from active (AF) verbs and Class II forms from passives. This conclusion is compatible with the evidence from other sets of verbs.

With regard to the decision to call the performer of the action BEN, the negative evidence at least is quite clear. 1) the 'causer' is

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the grammatical AGT, since it is coreferential with the clitic pronoun, which is always AGT with agentive verbs; 2) there can't be two AGT's in one simple sentence, and 3) it couldn't be any other case, because DAT, the only other likely prospect, is already taken by the DAT from the source verb when it is ditransitive. An analysis which denies (1) would complicate the grammar of Tsou, and to deny (2) or (3) would deny and weaken the whole case grammar framework.

Though the grammar does allow both the 'causer' AGT and the 'performer' BEN to cooccur, contrary to Tung's claim, it is true enough that this is not common, especially with ditransitive verbs, that is, bacause since AGT and DAT are both in the AC case form in a Class I causative, it may be confusing to have two animate AC's in the same sentence. Here, as in the analogous situation in Rukai (Li 1973:4.3.3.7), the language resorts to fixed word order; though in Tsou [+AC, +BEN] always precedes [+AC, +DAT], whereas in Rukai the reverse is true.

On the basis of the discussion so far, the Tsou causative rule may be represented as follows:

C-14.

$$\begin{bmatrix} +\text{NI} \\ \begin{pmatrix} +\text{AGT} \\ +\text{DAT} \\ +\text{OBJ} \end{pmatrix}_1 \\ \alpha F_i \\ <+(\begin{bmatrix} +\text{AGT} \\ \beta F_i \end{bmatrix})> \\ <<+\text{passive}>> \end{bmatrix} \longrightarrow \begin{bmatrix} +(\begin{bmatrix} +\text{AC} \\ +\text{AGT} \end{bmatrix}) \\ \begin{bmatrix} +\text{NI} \\ \begin{pmatrix} +\text{BEN} \\ +\text{DAT} \\ +\text{OBJ} \end{pmatrix}_1 \\ \alpha F_i \end{bmatrix} \\ <+(\begin{bmatrix} +\text{BEN} \\ \beta F_i \end{bmatrix})> \\ +\text{passive} \\ +\text{causative} \\ <<+\text{neni}>> \end{bmatrix}$$

C-15.

$$\underset{V}{]} \dashrightarrow \underset{V}{(n)\text{eni}]} \; / \; \begin{matrix} +\text{passive} \\ +\text{neni} \end{matrix}$$

The feature [+neni] seems like an ad hoc rule feature, but it is necessary to condition the correct affix on those causatives derived from passives. It would not be sufficient to condition the morphophonemic rule with just $\begin{bmatrix} +\text{passive} \\ +\text{causative} \end{bmatrix}$, since <u>all</u> causatives are passive. From another point of view, of course, this just shows that causative verbs are transitive verbs with their own lexical entries and as such, each must be specified for its own conjugation class, a-class, neni-class, or i-class.

Note that, as with other Formosan languages, verbs taking, say, BEN, INS, or LOC as subjects are not eligible for causativization. Moreover, it is quite rare in Tsou for RF verbs to be causativized. Tung in fact seems to be claiming that this never happens at all (Tung 1964:191), though I have presented counter-examples to this claim. The reason they are rare could be partly that causativization is a sporadic historical event, and just doesn't happen to everything it <u>could</u> happen to; perhaps

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a better reason is the problem of homonymy. Take for example the word for 'borrow' in its three foci, with their corresponding causatives:

AF	euevá́ho	BF	poa-euevá́ho
OF	euevá́ha	OF	poa-euevah-neni
RF	euevá́hi	RF	--

The reason for the non-existence of the causativized RF form could simply be that since final affix vowels are lost before -(n)eni, it would be homophonous with the causativized OF verb. Conversely, the reason such a form does exist for 'give' above is that due to the suppletive nature of the OF (faéni) and RF (fíi) forms, the Class II causatives don't come out homonymous, and therefore both are allowed.

I have stated that derivation rules are diachronic rather than synchronic, and that causativization is derivation. This predicts that lexical items entering the language at different times would be subject to phonological rules, and that in some cases, only a historical explanation would account for the relation between sets of forms. As a possible example of this, note the coexistence of six different causative forms for 'eat' listed by Tung: poabónu, poaanéni, poabonúa, pa?bónu, pa?bónua , and p?ónu. Comparing these to the AF, OF, and IF forms of the corresponding non-causatives, it is possible to sort out the three classes of causatives:

	Class I	Class II	Class III
AF bónu	poa-bónu pa?-bónu p?-oń́u	--	poa-bonú-a pa?-bónu-a
OF ánа	--	poa-an-éni	--
IF an-éni	--	--	--

To account for the synchronic coexistence of three Class I forms and two Class III forms, we could propose a scenario that would start off with a Pan-Formosan-looking root and derive the other verbs:

1.	m-kán					
2.	-	kán-an				
3.	-	-	pa-kán			
4.	m?án	?ánan	pa?án			
5.	-	ánan	-			
6.	bán	-	-			
7.	-	-	-	pa?-bán		
8.	-	-	p?án	-		
9.	bánu	-	p?ánu	pa?bánu		
10.	bónu	-	p?ónu	pa?bónu		
11.	-	-	-	-	pa?-bónu-a	
12.	-	-	-	-	-	poa-bónu

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13.	-	-	-	-	-	-	poa-bónu-a
14.	-	ana	-	-	-	-	-
15.	-	-	-	-	-	-	- poa-ána-én
16.	-	-	-	-	-	-	- poaanén
17.	bónu	ána	p?ónu	pa?bónu	pa?bónua	poabónu	poabónua poaanén

Tung considers p?ónu the shortened alternative form of pa?bónu, but by the solution worked out above, he may have the priorities backwards. The existence of such sets of forms, the occurrence of suppletive forms, and back-formation (cf. stop 7 above) can only be explained, it seems to me, if both causativization and focus are considered historical processes of word formation, that is, derivation.

I have not yet discussed what I termed 'Class III' causatives, those that are derived from AF verbs, but differ from Class I causatives in adding a final -a suffix without a corresponding stress shift. According to Tung, these forms are merely free alternants (Tung 1964:192), and he doesn't even bother to list them in his glossary; however, it turns out that there are consistent syntactic diffences between some of the forms with and without the -a suffix:

C-16. te ko n?a poamofi to naméoi to peisu o amoo su (C 97)

1	2	3	4	5	6
[+AC +AGT]	[+pass Class I]	[+AC +DAT]	[+AC +OBJ]	[+HH +BEN]	

1 2- 6 5 -2 4 3- -3
(You) tell your father to give the money to the old man!

C-17. te ko n?a poamofía to peisu o oko su (C 104)

1	2	3	4	5
[+AC +AGT]	[+pass Class III]	[+AC +OBJ]	[+HH +BEN]	

1 2- 5 4 -2 3
(You) tell your child to bring the money!

C-18. i si poamofía ta naméoi to peisu o oko su (C 105)

1	2	3	4	5	6
[+AC +AGT]	[+pass Class III]	[+AC +AGT]	[+AC +OBJ]	[+HH +BEN]	

3- -3 2- 6 5 -2 4
The old man told your child to bring the money.

The difference between the two forms syntactically is that the final -a Class III verb doesn't allow a DAT constituent to occur, while semantically the Class III forms are interpreted as involving motion toward the agent ('give' versus 'bring'). This can be expressed by a rule which removes the DAT from the case frame and marks the verb for the interpretation that the DAT is identical to the AGT. Note that this is exactly how Fillmore

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analyzes a verb like 'buy': the merchandise goes from the seller to the buyer, who is the agent and cannot be separately expressed with that verb. This is referred to as 'required coreference deletion' (Cook 1971:15-16). It seems that the rule for Tsou can be most simply written to apply to the non-causative agentive AF verb rather than to the causative, otherwise there is a problem in sorting out the correct subset of passive causatives for it to apply to. As a first approximation,

C-19.

$$\begin{bmatrix} +\left(\begin{bmatrix}+\text{NRI}\\ +\text{AGT}\\ \alpha F_i\end{bmatrix}\right)\\ +\left(\begin{bmatrix}+\text{AC}\\ +\text{DAT}\end{bmatrix}\right)\end{bmatrix} \qquad \begin{bmatrix} +\left(\begin{bmatrix}+\text{NRI}\\ +\text{BEN}\\ \alpha F_i\end{bmatrix}\right)\\ +\left(\begin{bmatrix}+\text{NRI}\\ +\text{AGT}\end{bmatrix}\right)\\ +\text{passive}\\ +\text{causative}\\ +\text{AGT=DAT}\end{bmatrix}$$

With non-causative cuevá́ho 'borrow', a source DAT is required:

C-20. i?o oko mo eueváho to mo go en to mameoi (C 5)

1 2 3 4 5

[+TP, +AGT] [-pass] [+AC, +OBJ] [+AC, +DAT]

1 2 3 4 5- -5

The child borrowed five dollars from the old man.

C-21. os?o eelúa o [i si eueváha to maméoi] ci peísu (C 48)

1 2 3 4 5 6

[+AC, +AGT] [+pass] OF [+AC, +AGT] [+NRI, +OBJ]

1 2 6 5- -5 4

I found the money which the old man borrowed.

Compare first the Class II passive:

C-22. i si poaeuevahnéni a?o ta oko o peisu si (C 108)

1 2 3 4 5 6

[+AC, +AGT] [+pass, Class II] [+AC, +BEN] [+AC, (+AGT), (+DAT)] [+NRI, +OBJ]

4-1 2 6 5 3 i 2- 3

The child lent his money to me; literally: the child had me

-2 6 5 4

borrow his money from him.

Although it should be possible to use this form to refer to 'X causing Y to borrow from Z', it seems for this Class II form the AGT=DAT (source)

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interpretation has been fixed for the lexical entry. Compare the Class I and III forms:

C-23. te ko n?a { 3 poaeuevá́ho / 2 poaeuevahóa } no peisu su a?o (C 107)
1 [+AC +AGT] [+pass] 4 [+G +OBJ] 5 6 [+NRI +BEN]

1 2/3 6 5 4
(You) lend me some of your money!

C-24. i si { 3 poaeuevá́ho / 2 poaeuevahóa } ta oko to peisu si a?o (C 109)
[+AC +AGT] [+pass] [+AC +AGT] [+AC +OBJ] 4 5 6 7 [+NRI +BEN]

1-4 3- 6 5 -3 7
a) The child had his money lent to me; OR

1-4 2 6 5 7
b) The child lent his money to me (from him)

Unfortunately, my notes aren't clear as to which gloss goes with which verb in C-24; however, if the coreferential interpretation does go with the final -a form, then the glosses should be as I have marked them. In both sentences, the money is the child's, but with poaeuevahóa, the AGT and DAT are coreferential, so the child is dispensing it as well as causing it to be borrowed, whereas with poaeuevá́ho, the lender and the dispenser are allowed to be different people. With such a subtle difference in meaning, it is not too surprising that the verbs are almost interchangeable.

The -a suffix with the verb 'to make' does not make any discernible difference:

C-25. 1 i si 2 poamooeá́i [+pass] 3 to si?ɔi [+AC +OBJ] 4 ta amoo [+AC +AGT] 5 si 6 o 7 oko si [+NRI +BEN] (C 121)
[+AC +AGT]

4 2- (7) 6 -2 3
The father had his children make a broom.

C-26. 1 i si 2 poamoeaeía 3 ta naméoi 4 to fatu 5 o mo?o (C 123)

3- -3 2- 5 -2 4
The old man had Joe make rocks.

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However, the Class II causative, derived from the suppletive OF passive teai, does show an interesting lexicalized distinction:

C-27. i ^{1}si ^{2}poateáinéni ta ^{3}hanócqu o mo ^{4}kuzo to ^{5}cá?nu (C 43)
[+AC +AGT] [+pass Class II] [+AC +BEN] [+NM +OBJ]

^{1}He $^{2-}$had the ^{3}man $^{-2}$fix the ^{4}broken ^{5}chair.

It is only this Class II causative that I have found to have the meaning of 'repair' instead of 'make'.

Finally, there is also a phonological distinction between poabónu and poabonúa (Tung gives this form without the stress shift), but I have not found a corresponding semantic difference.

C-28. i ^{1}si ^{2}poabónu ta ^{3}maméoi to ^{4}fóu o ^{5}inó ^{6}si (C 126)
[+AC +AGT] [+AC +AGT] [+AC +OBJ] [+NM +BEN]

$^{3-}$The old $^{1-3}$man $^{2-}$made ^{6}his ^{5}mother $^{-2}$eat ^{4}meat.

C-29. te ^{1}kó n?a {^{2}poabónu / ^{2}poabonúa} to ^{3}fóu o ^{4}ino ^{5}su (C 125)
[+AC +AGT] [+AC +OBJ] [+NM +BEN]

^{1}(You) $^{2-}$tell ^{5}your ^{4}mother to $^{-2}$eat ^{3}meat!

8.0 CONCLUSION

At this point, I should be saying something about subgrouping, since this is a paper intended for a conference on comparative linguistics. According to Blust (1973), we can approach syntactic reconstruction either by typological comparison or by attempting to reconstruct surface sequences of two or more words. My data do not lend themselves to the latter approach (which I would think is lexical rather than syntactic reconstruction anyway, if we take seriously what Chomsky says about syntactic creativity). In terms of typological comparison in the area of causatives, perhaps the most notable characteristic by which Formosan languages differ is in whether their causative rules derive only passive causatives (Tsou, Bunun), mainly passives (Amis), active or passive (Saisiyat, Seediq), or only actives (Rukai). This may be a significant division in light of the fact that Rukai also differs in requiring DAT instead of BEN as the case relation corresponding to a non-causative AGT. Another possibly interesting parameter might be whether the language allows the causativization of ditransitives (Tsou, Amis), allows it in a suspicious way (Saisiyat), or forbids it (Rukai, Bunun, Seediq). The subgroups one might try to establish on the basis of such criteria do not match the usual divisions of Atayalic (Seediq) - Tsouic (Tsou) - Paiwanic (Amis, Bunun, Rukai, Saisiyat) that have been proposed on lexical evidence. If anything, Rukai, supposedly a

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member of the Paiwanic group, comes off as the oddest of the lot. From what I have seen, I suspect a more through and comprehensive syntactic comparison will have a lot of areal features to sort out.

In conclusion, perhaps one typological characteristic common to all the languages I studied should be reiterated here: that is the clear and fundamental division of verbs in Formosan languages into two classes, active and passive, with the passive verbs subdivided for some of the languages into different 'focus' types. As Ferrell notes (1971b: 3-4), this has been the traditional view of Philippine languages too. It was rejected by McKaughan (1958), who according to Ferrell "drops the artificial active-passive distinction and treats the four focus inflections as four separate voices" (Ferrell 1971b:4). Ferrell adopts a similar approach in his analyses of Formosan languages, and in fact goes one step farther, suggesting that the languages have four foci and an active-passive distinction. This latter hypothesis is supported only by some very suspicious data from Amis, (see section 2.4), and will need much more evidence to make it acceptable. However there is already enough data available to support the establish an active-passive voice dichotomy, and for Amis an additional ergative-accusative division. In fact, much of the evidence can be found in the articles in which Ferrell is attempting to show that the distinction is an artificial one. To sum up the evidence:

a) only non-AF verbs in Paiwan seem to allow preposed clitics (Ferrell 1971a:110-111)

b) "In Paiwan, preverbs are used primarily with the AF-inflected form of the verb" (Ferrell 1971a:111)

c) in Tsou, preverbs are divided into those that cooccur with AF verbs and those that don't (Ferrell 1971a:114)

d) AF sentences follow the accusative subject choice hierarchy; the subject is not 'agent', but neutralizes AGT, DAT, INS, and OBJ; this function is taken over by G or AC in non-AF sentences, depending on the language

e) finally, all the causative rules I have proposed in this paper can only be stated by making crucial reference to a feature [±passive], a feature that puts AF verbs into one group [-passive] and all non-AF verbs together into the other category [+passive].

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* lexicase

** partial lexicase

TABLE OF CONTENTS

Volume 5, Number 9
October 1973

John Lynch: Verbal Aspects of Possession in Melanesian Languages 1

Kee-dong Lee: Verbal Aspect in Kusaiean and Ponapean 23

Hiroshi Sugita: Comparison of Verb-Object Relationships in Micronesian Languages 67

Soenjono Dardjowidjojo: The Role of Overt Markers in Some Indonesian and Javanese Passive Sentences 77

Stanley Starosta: Causative Verbs in Formosan Languages 89

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